A CRITICAL ANALYSIS OF THE INTERNATIONAL BACCALAUREATE PRIMARY YEARS PROGRAMME IN INDIA

RESEARCH REPORT

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CHAPTER I

INTRODUCTION AND OVERVIEW

1.1 Introduction

India's civilisation dates back to 2,500 B.C. The history reveals that the Aryan tribes from the northwest invaded the country in about 1,500 B.C and created classical Indian culture with the earlier Dravidian inhabitants. Subsequently Arab, Turkish and European incursions took place for trade and business. Great Britain, during the 19th century established a colony and assumed political control in India. The freedom struggle initiated by Mohandas Gandhi along with the several national leaders helped to end British colonialism through Satyagraha and non-violent resistance. India achieved independence in 1947. There are 16 official major languages and 844 dialects. Among these languages, English enjoys associate status, but is the most important language for national, political, and commercial communication (Central Intelligence Agency, 2013). Hindi is the national language and mother tongue of 30% of the people. With respect to the distribution of religious practices, Hinduism (80.5%), Islam (13.4%), Christianity (2.3%), Sikh (1.9%) are the major religions in the country (Central Intelligence Agency, 2013). The literacy rate in India which is a key socio-economic indicator has grown to 74.04% in 2011 from 12% at the end of British rule (Central Intelligence Agency, 2013). Subsequent governments in India strategically progressed from strength to strength and emerged as a global economic giant through knowledge economy in which education is the key for nation building.

1.2 Administration of Education in India

In the Constitution, education is organized under a concurrent list in which the central and the state governments have joint responsibility for education, with freedom given to the state governments to organise education within the national framework of education. The Ministry of Human Resource Development (MHRD) is the ministry responsible for educational policy planning which includes the Department of Elementary Education and Literacy and the Department of Secondary and Higher Education. The Ministry is guided by the Central Advisory Board of Education (CABE) which is the national level advisory body. The education ministers in the various states are members of the board. The National Council of Education Research and Training (NCERT), established in 1961 provide guidelines for the National Curriculum Framework for classes I - XII. It also functions as a resource centre in the field of school development and teacher education. The State Councils of Educational Research and Training (SCERT) are the principal research and development institutions in all of the states. At the secondary level, school boards (The Central Board of Secondary Education (CBSE) and the Council for Indian School Certificate Examinations (CISCE) at state level affiliate schools set examination standards in accordance with the national framework.

The National Policy on Education 1986 (modified in 1992) defines the major goals for elementary education as universal access and enrolment, universal retention of children up to age 14 and substantial improvement in the quality of education. The National Policy of Education of 1992 also addresses vocational education and greater use of educational technology. The policy has been accompanied by several programmes such as the District Primary Education Program (DPEP) launched in 1994 and the National Campaign for Education for All (Sarva Shiksha

Abhiyan) launched in 2001/2. A proposed bill on the right to education (Draft, November 2005) stresses the right of all children from age six until their 15th birthday to receive elementary education either in school or non-formal education (NFE). The Indian government is preparing for the universalisation of secondary education (USE). The main aim is to provide high quality secondary education to all Indian adolescents up to the age of 16 by 2015, and senior secondary education up to the age of 18 by 2020.

1.3 School Education

A uniform structure of school education, the 10+2 system, has been adopted by all the states and Union Territories (UTs) of India following the National Policy on Education of 1986. Elementary school, Class I – VIII, is recognised as the period of compulsory schooling, with a Constitutional amendment making education a fundamental right. A majority of the states and Union Territories (UTs) have introduced free education in Classes I-XII. Pre-school covers two to three years. The elementary stage consists of a primary stage comprising Classes I-V (in some states I-IV), followed by a middle stage of education comprising Classes VI -VIII (in some states V-VIII or VI -VII). The minimum age for admission to Class I of the primary school is generally 5+ or 6+. The secondary stage consists of Classes IX-X (in some states VIII-X), and a senior secondary stage of schooling comprising Classes XI-XII in all states. In some states/UTs these classes are attached to universities/colleges. The government has been encouraging public private partnership in education and as a result, several private organizations and members of the corporate world have come forward to establish private schools across the country. Private schools are not free and parents have to pay fees for their children's education. The government

has also introduced a policy of providing about 25 percent of seats in private schools for socially disadvantaged groups to enable them to fulfill their educational needs under an equity measure.

1.3.1 Universalization of Elementary Education in India.

Universalization of Elementary Education (UEE) has been the national priority of India and in this direction policies and programs have been implemented in the country to increase the educational access, enrolment and quality. Realizing its importance, the Government of India has created the 86th amendment in the constitution considering Education as a Fundamental Right with a commitment to provide free and compulsory primary education to all children up to the age of 14. Over the last five decades, significant efforts have been made to achieve Universalization of Elementary Education (UEE) in India. Learning from these experiences, the Government of India launched in 2000 a nationwide and self-sustained program named “Sarva Shiksha Abhiyan” (SSA) which is a multi-pronged, holistic and convergent programme targeting both primary and upper primary stages of education with an effort to improve the performance of the elementary school system and provide community owned quality elementary education in a mission mode. The National Curriculum Framework (NCF) 2005 highlighted the constructivist pedagogy with a view to making education more relevant to the present day issues and concerns and future needs. Some of the major recommendations of NCF are:

- connecting knowledge to life outside the school
- ensuring that learning is shifted away from rote methods
- enriching the curriculum to provide for overall development of children rather than remain textbook centric
- making examinations more flexible and integrated into classroom life

- respecting the identity of the child and providing caring concern based on the democratic principle of our country (National Council of Research and Training, n.d.)

The classroom learning experiences have to be scaffolded in such a way that they enable the children to raise questions, pursue investigations, and integrate home experience with school knowledge rather than emphasizing on reproducing textual knowledge.

Despite the expansion of primary education system and policy support, there is still a need to increase the pace of improvement by addressing the current challenges which are contextual in nature. These challenges include:

- Improving access and efficiency by focusing on out of school children
- Reducing the gaps in enrolment, retention and achievement among the girls and scheduled caste and scheduled tribe children
- Enhancing learning achievement by keeping sustained attention to improve the quality of key inputs, school management and community participation
- Improving teachers' performance by providing quality pre-service training as well as continuous professional development programs for teachers
- Improving the quality of teaching learning materials
- Building managerial and institutional capacity through the capacity building of local administrators and school functionaries require special focus
- Curriculum load and the mismatch between size of the syllabus and the conditions in which it has to be taught due to multigame schools and large size classes, irrelevant content and medium of instruction

1.4 School Education System under Different Boards

There are 33 different educational boards in the country, including the Central Board of Secondary Education (CBSE), Council for the Indian School Certificate Examinations (CISCE) which is the umbrella for Indian Certificate for Secondary Education (ICSE) and Indian School Certificate (ISC) and the various State Educational Boards. Each state is empowered to manage their school education boards to prescribe syllabi and also conduct examinations at the terminal stage of school education.

The Central Board of Secondary Education is an eminent board of school education in India. The CBSE prepares the syllabi for Classes IX-XII for the students of affiliated schools. CBSE suggests its affiliated schools to follow syllabi of NCERT for the students from Lower Kindergarten (L.K.G) to Class VIII. It conducts India's two important board examinations: the All India Secondary School Examination for Class X and the All India Senior School Certificate Examination for Class XII, which is a school-leaving examination. There are many private schools across India and other countries which have CBSE affiliation (Central Board of Secondary Education, n.d.). The medium for education prescribed by CBSE is either English or Hindi. CBSE All India Senior School Certificate Examination for Class 12 is widely recognised internationally for direct admission to university undergraduate courses. CBSE also conducts the All India Engineering Entrance Examination (AIEEE) which is a common entrance examination on all-India basis for admission to engineering and architecture/planning programmes in the country. It has now initiated CBSE International, as a step towards internationalizing Indian curriculum (Central Board of Secondary Education, n.d.).

The Council for the Indian School Certificate Examinations (CISCE) is a board of school education in India, like CBSE. It conducts two exams: ICSE - Indian Certificate of Secondary Education and ISC - Indian School Certificate. The CISCE was set up in 1956. At the meeting of the Inter-State Board for Anglo-Indian Education a proposal was adopted for the setting up of an Indian Council to administer the University of Cambridge Local Examinations Syndicate's examinations (examination under University of Cambridge) in India. The Indian Certificate of Secondary Education - ICSE examination is an examination conducted by the Council for the Indian School Certificate Examinations for Class X. It has been designed to provide education and conduct examination in a general course in accordance with the recommendations of the New Education Policy 1986 (India), through the English medium. The Indian School Certificate (ISC) is an examination conducts by the Council for the Indian School Certificate Examinations for Class XII (Council for the Indian School Certificate Examinations, 2011).

Apart from the above curriculum boards, there are a few international schools offering the IB curriculum and British curriculum. The number of these schools is increasing in the recent past as they have been getting public response, especially for their curriculum input and classroom processes.

1.6 International Baccalaureate Organization (IB)

IB Schools in India are a recent phenomenon and have been catching on exponentially in the recent past. Several schools across the country are being affiliated with IB Programmes and among them especially the PYP has become more popular and gained attention. The Primary Years Programme (PYP) was started in 1997 and as of this research is offered by 976 IB World

Schools. Of the 976 schools offering the PYP program worldwide, 41 IB PYP schools are in India (International Baccalaureate Organization, 2012). These PYP schools seem to be working well according to the standards given by the IB, with the objective to find the extent to which these schools are functioning well in the Indian context this project of critical analysis of the IB PYP in India had been started in November 2011.

The IB Primary Years Programme, for students aged three to 12, focuses on the development of the whole child as an inquirer, both in the classroom and in the world outside. Six transdisciplinary themes of global significance provide the framework for exploration and study and they are:

1. Who we are
2. Where we are in place and time
3. How we express ourselves
4. How the world works
5. How we organize ourselves
6. Sharing the planet

Teachers are guided by these six transdisciplinary themes as they design units of inquiry that both transcend and articulate conventional subject boundaries (International Baccalaureate Organization, 2002).

The subjects in the Primary Years Programme (PYP) are:

1. Language
2. Social Studies

3. Mathematics
4. Science and Technology
5. Arts
6. Personal, Social and Physical education

These themes are about issues that have meaning for and are important to all of us. The programme offers a balance between learning about or through the subject areas and learning beyond them. The six themes are of global significance, they create a trans-disciplinary framework that allows students to "step up" beyond the confines of learning within subject areas. The six trans-disciplinary themes help teachers to develop a programme of inquiries - in-depth investigations into important ideas, identified by the teachers and requiring a high level of involvement on the part of the students (International Baccalaureate Organization, 2002). These inquiries are substantial, in-depth and usually lasting for several weeks. Assessment is an important part of each unit of inquiry as it both enhances learning and provides opportunities for students to reflect on what they know, understand and can do. The teacher's feedback to the students provides the guidance, the tools and the incentive for them to become more competent, more skilful and better at understanding how to learn (International Baccalaureate Organization, 2013c). Any school wishing to offer the Primary Years Programme and attain IB World School status must first go through an authorization process. The requirements for authorization are the same for all schools, even though the process is administered slightly differently in each IB region. The process is designed to ensure schools are well prepared to implement the programme successfully (International Baccalaureate Organization, 2013b). The five essential elements -

concepts, knowledge, skills, attitudes, action—are incorporated into this framework, so that students are given the opportunity to:

- gain knowledge that is relevant and of global significance
- develop an understanding of concepts, which allows them to make connections throughout their learning
- acquire transdisciplinary and disciplinary skills
- develop attitudes that will lead to international-mindedness
- take action as a consequence of their learning.

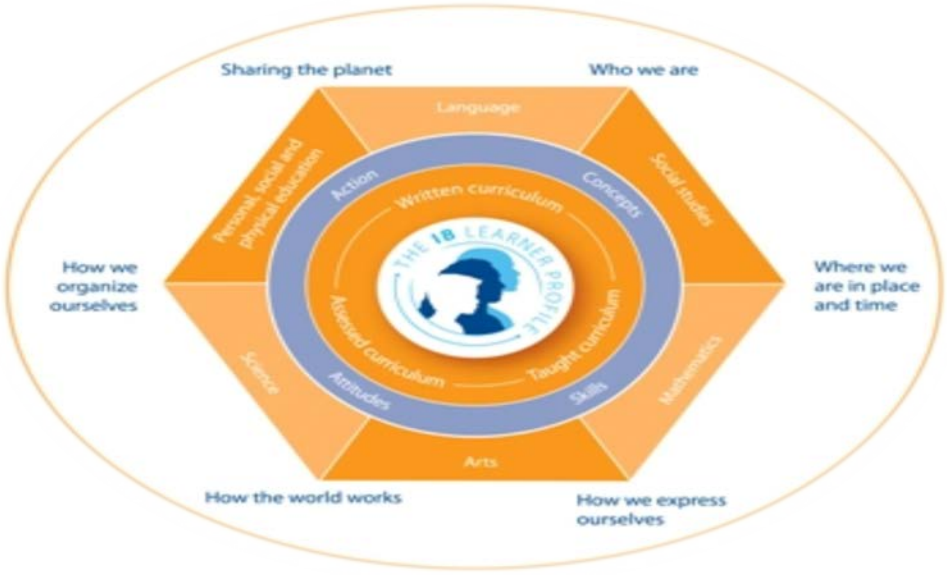


Figure 1: The Primary Years Curriculum Framework. At the time of this research, the programme could be illustrated by a hexagon (International Baccalaureate Organization, 2011) with the six transdisciplinary themes surrounding six subject areas.

The transdisciplinary themes and subject areas outlined above form the knowledge element of the programme. This is a challenging programme that demands the best from both motivated students and teachers. The present research study critically examined the curriculum inputs, transactions, learning outcomes, and the process of adaptation of IB in the Indian context with a view towards understanding the emerging issues and challenges of institutions and individuals associated with IB PYP in India.

1.7 Organization of Chapters

The present study is reported in six chapters. Details regarding the chapters have been presented below:

Chapter I is titled "Introduction and Overview." This chapter deals with the conceptual framework of the study including the educational system in India and national priorities, challenges, overview of the different curriculum boards in India, the International Baccalaureate Primary Years Programme in India, program standards and authorization and organization of the report.

Chapter II is titled "Review of Related Literature." This chapter provides an overview of the review of related research work done in the area of the IB PYP in India and abroad along with the key ideas and implications of the review of related literature for the present study.

Chapter III deals with the research methodology used in the present study including the major objectives of the study, identification of sample schools, research tools and techniques and procedure of data collection.

Chapter IV presents the detailed analysis of the data pertaining to the nature of the IB schools offering the PYP in India, leadership of the principal and PYP coordinators' professional competencies of teachers, nature of classroom practices, learning outcomes of the students both in scholastic and non-scholastic areas, parental participation and satisfaction and the emerging issues and challenges of IB PYP in India.

Chapter V discusses the findings of the study in the light of research questions and presents the future directions for strengthening IB PYP in India. This chapter is followed by references and appendices.

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 Introduction

The IB Primary Years Programme is for students aged three to 12 and focuses on the development of the whole child as an inquirer, both in the classroom and in the world outside. The PYP aims to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world (International Baccalaureate Organization, 2013a).

The present review of the related studies was conducted with a view to explore the nature of studies conducted in India and abroad in the area of critical analysis of school programs especially in primary education and to identify the key areas that were required to be studied. The initial search did not yield any similar study in India as well as abroad, so the trends which emerged out of the studies related to school evaluation, school inspection, effectiveness of the schools and factors affecting students learning in the primary schools. Further, reports of the SSA (Sarva Shiksha Abhiyan) mission under the UEE (Universalization of Elementary Education) in India were reviewed. Scanning through the various resources databases like JSTOR, ProQuest and ERIC, it was found that there were many studies related to the schools' program effectiveness, factors affecting the students learning, and school evaluation. Since the PYP was started in 1997, it was decided by the committee members of the project to review the studies approximately around a decade after the initiation of PYP.

2.2 Studies Conducted in Indian Schools

Ed. CIL (2005) reported the scholastic achievement of the students while assessing the effectiveness in the primary schools of four districts of India. In 2003, the results indicated average achievement in language declined in the states of Karnataka, Uttar Pradesh and Maharashtra while language achievement increased in the state of Orissa. The results of the test taken for numeracy skills revealed that more than half of the students scored below 40 percent in Karnataka, Maharashtra and Uttar Pradesh while more than 50 percent of the students scored above 40 percent in Orissa.

Gupta (2007) studied the teacher's notions of accountability across three types of schools (private, public and NGO primary schools) in India. The major findings showed a lack of pre-service teacher training, professional training and that teaching experience had a significant effect on the way the teachers view their roles and responsibilities.

Grover and Singh (2002) examined the status of the primary education in the Indian state of Tamilnadu. The findings of the study indicated a lack of resources for implementing the activities given in the teacher's handbook, teachers did not conduct vital activities written in the lesson plan, there was a lack of multi grade teaching components in the pre-service and in-service teacher training programs, there was inadequate time to teach due to large number of training programs and there was a lack of well-trained lecturers to train the primary school teachers.

Zakrzewski (2012) conducted a case study to develop teacher's capacities to create caring relationship with students. The findings showed that the receipt of care and strong commitment towards the teacher-student relationship by the administrators fostered good relationship between teachers, parents and students.

2.3 Summary of the Review of Related Studies

A total of 27 studies related to both Indian and international schools were reviewed. Out of the total international studies 10 were related to IB schools. The findings of the literature related to IB schools yielded many aspects related to school effectiveness. These included pedagogical aspects including critical inquiry fostered in the students, skills and techniques developed in the students and understanding and interconnectedness established in the subjects of study by the teacher (Rose, 2007; Sillisano et al., 2010). One of the studies examined IB teachers' understanding about international mindedness (Gigliotti-Labay, 2010). The performance of IB PYP students in the various subjects of study on a standard test like PISA and ISA was also used to document the impact of IB schooling (Tan &Bibby, 2010). The challenges of implementing the IB Programmes were described in two general categories: 1) recruitment and retention of teachers and 2) creation of additional time for collaborative lesson planning and paper work (Sillisano et al., 2010). The other aspects identified for this critical study of IB schools were instructional skills, teaching strategies, assessment strategies used by the IB teachers, planning of the curriculum in alignment with state syllabi, the transdisciplinary nature of PYP, the accountability of principals, networking with other schools and infrastructural facilities (Hall & Elder, et al., 2009; Hartman, 2008; Lopez, 2010; Sillisano et al., 2010; Wilkerson, 2005).

The review of literature related to other international and Indian elementary schools focused on many key aspects. One of the major aspects revealed was the availability of resources like time, physical resources and qualified and trained teachers (Andrews, 2012; Gosnell-Lamb, 2011; King, 2012; Olmstead, 2011) for proper management of elementary schools. The management of available resources has to be done by the principal along with development of good teacher-principal relationships, teacher-teacher relationships, teacher-student relationships and teacher-parent relationships (Hartman, 2008; Zakrzewski, 2012). A school's effectiveness also lies on the shoulders of the teachers. The teacher's personal attributes like commitment to the students, parents and administration, accountability for the profession, creativity and vision play a vital role to make a teacher a role model (Brook, 2005; Gupta, 2007; Hood, 2011; Lyding, 2012; Wilkerson, 2005; Zakrzewski, 2012). Besides these qualities, a teacher should maintain ideological consistency in teaching methods and instructional practices, foster international values and create cultural awareness. They should plan the curriculum and prepare innovative lesson plans to ensure effective teaching learning process to occur (Hall, Elder, Thompson and Elder, 2009; Hutchinson, 2004; Lawlor, 2012; Lopez, 2011; Lyding, 2012; Rose, 2007). For the teacher to work effectively, proper co-ordination of the teacher–principal relationship and site specific professional development has to be ensured (Burton, 2012; Gupta, 2007; Hartman, 2008). Planned pre-service and in-service training for primary school teachers by trained professionals can groom them into better teachers (Grover and Singh, 2002; Gupta, 2007). Learners and their achievement also emerged as an important aspect to study the success of a school program. The performance of the students in numeracy, reading comprehension, expository writing, narrative writing and science are measures of the extent to which the comprehensive coverage of the topics, as well as clear and logical presentation of the concepts

were carried out by the teacher in different subjects (Ed. CIL, 2005; Metais, 2003; Ruddock, 2010; Tan &Bibby, 2010). The academic performance should also be supported by the inculcation of international values and the development of creative thinking, critical thinking and curiosity in the students to prepare them to face the problems of the world (Gigliotti-Labay, 2010; Metais, 2003; Muller, 2012).

Parents were also described as important stakeholders of the school program in the reviewed studies, hence their involvement was inevitable. Quality of the parent-child interaction, parents' educational qualifications, and family structure affected the child's performance and behaviour (Brown, 2011), so the parents should be actively involved in the school activities (Metais, 2003) as resource persons or guest lecturers or mentors. The rapport of the parent with the school has to be ensured by the administrator and the teachers of the school by keeping them informed about their child's performance and other school activities (Zakrzewski, 2012). Using technology to involve parents can be the best means of communication with the parents in this era (Olmstead, 2011).

The other aspects emerging from the overview of the literature for the study of the primary schools were curricular planning and implementation, the role of administrator/principal/coordinator, the teacher's role, learners and their performance, parental involvement and infrastructural aspects. All these aspects seem to be interwoven and dependent on each other for effective functioning of a school programme.

In addition to reviewing the outcomes of the studies, the methodologies, tools, and techniques used for the different studies were also reviewed. The main points related to the methodology used to conduct various studies in the IB schools, government schools in India and abroad, and the other international schools has been summarized below.

Out of the total studies, 10 studies were related to IB programmes. The following points emerged from the review of the IB school programmes:

Questionnaires were used to get the information related to the school infrastructure, teacher co-coordinator relationship, perceptions and experiences of the administrators and PYP teachers while implementing the PYP and integration of global themes in the classroom by Diploma Programme teachers (Gigliotti-Labay, 2010; Hall et al., 2009; Hartman, 2008; Wilkerson, 2005).

Interviews with the administrators and coordinators were conducted to reveal the PYP accreditation process, to ascertain challenges in implementing PYP programme, to understand the impact of the IB PYP and MYP on the students, to discover the organizational conditions required for IB programmes and to assess coordinator/principal relationship with the teachers (Hartman, 2008; Lopez, 2010; Rose, 2007; Sillisano et al., 2010).

Classroom observations were used as a technique to find out the instructional strategies and practices in the PYP classes, impact of the authorization practices process on the school's teaching and learning process and to find the quality of the instructional practices in the PYP

classes and integration of international mindedness in the DP classes (Hall et al., 2009; Labay, 2010; Lopez, 2010; Rose, 2007; Sillisano et al., 2010; Wilkerson, 2005).

Interviews and focused group discussions with the teachers were conducted to 1) collect their experiences related to the implementation of PYP professional development programs, 2) uncover their instructional strategies integrating the global themes, 3) explore the impact of the PYP and MYP on the students, and 4) identify challenges of implementation (Burton, 2012; Gigliotti-Labay, 2010; Hall et al., 2009; Hartman, 2008; Lopez, 2010; Rosem 2007; Sillisano et al., 2010). Studies used the *Teacher Sense of Efficacy Scale* (Tschannen-Moran and Hoy, 2001) and the *Teachers Effectiveness Behavior Scale* (Strong & Tucker, 2003) to assess the instructional practices and the teachers' behaviour in the PYP classes (Hutchinson, 2004).

Standardized tests of mathematics and English were given to DP students to validate teacher effectiveness (Wilkerson, 2005).

Interviews and focused group discussion with parents were also used by some of the researchers to survey aspects like perception of the PYP programme, impact of the PYP and MYP on students' learning, and experiences related to the IB PYP teachers and coordinators.

Questionnaires for the students were used to investigate attitudes, perceptions and well-being in a PYP and MYP class, instructional practices and enhancement of the teaching and learning in a PYP class. The International Schools Assessment (ISA) Tests for Mathematics and Language

were analysed to determine conceptual understanding about various concepts (Rose, 2007; Tan & Bibby, 2010).

Document analysis was also a strategy used to get information about instructional strategies, professional development of the teachers, student performance in the various academic and non-academic activities and organizational plans and strategies (Burton, 2012; Lopez, 2010; Rose; 2007).

All the reviewed studies related to the IB schools were completed with surveys. The majority of the studies triangulated the data obtained from the interviews and discussed the results of document analysis and classroom observation data. (Gigliotti-Labay, 2010; Hall et al., 2009; Lopez, 2010; Rose; 2007; Sillisano et al., 2010; Tan &Bibby, 2010; Wilkerson, 2005). In the other research the frequency and percentage for quantitative data obtained from the questionnaires were provided while a description was presented for the qualitative data gathered from interviews, discussions and observations (Burton, 2012; Hartman, 2008; Hutchinson, 2004).

A similar trend in terms of design, techniques, tools and data analysis emerged while reviewing the studies related to the international schools in various countries including Australia, Canada, England, France, Germany, Hungary, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Singapore, Spain, Sweden, Switzerland, the United States, Wales, Venezuela, and the Philippines. The studies related to the international schools reviewed the aspects including impact of parent involvement on student achievement, parent and teacher involvement in

promoting international mindedness in the primary classes and curriculum assessment in international schools (Metais, 2003; Muller, 2012; Olmstead, 2011).

The review also aimed to explore the status of the primary school programs in India apart from the studies related to IB programmes, so four studies were reviewed related to the primary schools in India. Grover & Singh (2002) conducted a case study of some schools in the state of Tamilnadu. To gather information about the physical facilities, instructional practices, classroom availability and various schemes for primary schools the principals, teachers and district elementary education officers were interviewed. The data obtained from the interviews were validated by making surprise visits to the primary schools. Zakrzewski (2012) conducted a case study concerning a Gandhian school to learn about the capacity activities conducted in the school and their impact on the student-teacher relationship. Gupta (2007) surveyed the private, government and non-government schools in the national capital, Delhi, to investigate the perceptions about accountability prevalent among primary school teachers for the students. The data was collected by interviewing administrators and teachers in the selected schools. Ed. CIL (Educational Consultants India Limited) (2005) surveyed the conceptual understanding of the primary school students in language and mathematics by administering a terminal stage test in the primary schools in four states of India. The aim of this was to explain the understanding of the students concerning mathematical and language-related concepts at the terminal stage of the lower primary section. The data was collected by interviewing the teachers, the students, and administrators (Gupta, 20007; Grover & Singh, 2002; Zakrzewski, 2012). The data related to the terminal tests was analysed to obtain frequency and percentage of the students' scores according to student and subject.

Ten studies were reviewed to find the status of the government primary schools outside India. Interviews of the teachers and administrators were conducted by the researchers to find the curriculum organization, assessment patterns, use of textbooks, impact of lesson study, integration of 21st century skills in the instructional practices, teachers' qualifications, teachers' specializations and professional development (Andrews, 2012; Gosnell-Lamb, 2011; Hood, 2011; King, 2012; Lawlor, 2012; Lyding, 2012, Ruddock, 1998). Questionnaires were used to gather data from teachers regarding the significance of lesson plans, qualifications, and teaching abilities to integrate 21st century skills in their instructional practices (Andrews, 2012; King, 2012; Lawlor, 2012, Lyding, 2012). The *Questionnaire on Teacher Interaction* (QTI) was administered on the teachers to know the subject attitude and interpersonal behaviour with peers (den Brok, Fisher & Scott, 2005). Standard tests like the *Texas Assessment for Knowledge and Skills* (TAKS) and the *Mathematics Self Efficacy Scale* (MSES) were administered to the students to validate the effectiveness of the various approaches of teaching (traditional approach/learner centered approach/integrated approach) (Martin, 2011). Standardized tests (the Commonwealth of Virginia's (USA) Standard of Learning Examination) for mathematics, English, science and social sciences were analysed to find the conceptual understanding of the students in these subjects (Andrews, 2012). Classroom observations were also used by some researchers to observe the effectiveness of lesson plans (Lawlor, 2012; Lyding, 2012). The analysis of the data often involved triangulating interviews with observation and documents (Lawlor, 2012; Lyding 2012).

2.5 Key Ideas and Implications for the Present Study

The above review of the related studies provided a framework for this study of the PYP. The review revealed key ideas for the critical analysis of PYP, especially in an Indian context. Institutional Profile, Teacher Development, Development of Curriculum, Pedagogical Practices, Learner and Learning Outcomes, Parental Involvement and Management of the Primary Years Programme were identified as key ideas for the study and they are presented below.

2.5.1 Institutional Profile

The institutional profile can be surveyed with the help of a questionnaire eliciting information about the physical resources (infrastructure), human resources (teachers, coordinators, principal, and students) and the financial aspects (school fees, development charges, etc.). The collected data can be validated by observation during a school visit.

- **Infrastructure facilities:** This might include information about spatial arrangement and resources available in classrooms, the availability of labs, libraries, total area of school building (square feet), availability of required number of classrooms and other rooms, availability of facilities like kitchens, drinking water, playground, playing equipment for playing different games, different teaching and learning aids, computer laboratories, library, hostel and other facilities, and the availability of classrooms for each grade students (up through grade five). The institutional profile helps the governing bodies of the institution make the necessary interventions per the requirements. (Gibberd, 2007).

- **Human resources:** This includes the academic and professional qualifications of the teachers, the students' enrolment details, selection criteria for new teachers, number of

teachers for each grade in the PYP. Proper availability of teachers and accessibility to the infrastructure facilities enhances students' learning (Gibberd, 2007).

- **General details:** It emerged from the review and the discussion of the experts that the general details should be collected in terms of name of school, location of the school, establishment year of school, timing of school, mission of the school, number of teaching staff, number of non-teaching staff, teacher-student ratio, and details regarding the students' exchange programme.

- **Nature of funding:** Adequate funding is required to provide the resources needed to the students (Patterson, 2004). One of the points that can be added to the questionnaire can be related to the nature of funding and is related to the availability, proper and timely funds, sources of funds, management of funds, the availability of contingency money and the financial difficulties for the organization and the management of the PYP (Hall et al., 2009, Grover & Singh, 2002; Lopez, 2010).

- **Teachers' professional development:** This point can be used to investigate aspects concerning organization of in-service training programmes for teachers, the nature of training programmes, the reasons for not organizing training and the type of support provided to teachers by the school for their professional development (Burton, 2012).

- **Parent's participation:** Parental involvement can influence the educational outcomes of the children. There is a meaningful, positive relationship between parental involvement and academic achievement (Fan & Chen, 2001). The information about the parental involvement might be gathered by collecting information concerning regularity of

parental visits, support of parents towards the school, problems faced by the school from parents and utilization of parents as resource persons.

2.5.2 Teacher Development

Teacher development includes a wide range of applicability that extends from an individual to a professional level. It applies the teacher's own professional development (the training programmes that they undergo for enhancing their skill, content knowledge, pedagogical practices and transactional methods), the institution that helps them to get training, the attitude of the teachers towards teaching and the modifications that they make in their transactional methods based upon the self-assessment and the feedback from the students and school authorities. Teacher development is the key to keeping teachers abreast of current issues in education, helping them to implement innovations, refine their practices and broaden themselves both as educators and individuals (Darling-Hammond, 1990). New types of expertise are required of teachers in order for them to keep abreast of the emerging knowledge base and be prepared to use it to continually refine their conceptual and craft skills (Guskey & Huberman, 1995). This requires a great deal of learning on the part of the teachers and will be difficult to make without support and guidance (Ball & Cohen, 1999).

Under the teacher development dimension there are the three main indicators that might be used while interviewing the teachers and administrators about teacher development. They are as follows:

- **Teacher Preparation**: The reviews suggest information regarding teacher preparation in terms of teachers' qualifications, the selection process employed to select the teachers in terms of content mastery, the methods and approaches used by teachers to convey the

subject, the performance of teachers and attitudes of teachers towards teaching. These might be elicited since these factors have a great impact on the instructional practices and student learning (Andrews, 2012).

- **Induction Program:** An induction program for the orientation of all new teachers to the school and school board, the mentoring of new teachers by experienced teachers and the professional development and training in different areas such as content competencies, skill development, and learning of new developments in pedagogy. The training provided to teachers in schools can have a discernible effect on student achievement (Angrist & Lavy, 2002).

- **In-Service Program:** An in-service program is a systemized, need-based continuous process, which contributes to the development of the content knowledge, positive attitudes and interests, skills and technological knowledge and intrinsic motivation. In-service training could have an impact on the behaviour of the teacher, which has a direct effect on the instructional practices (Hutchinson,2004). Information about in-service training programs might serve as an important indicator for finding professional development activities carried out by the school and by the IBO for PYP teachers, in terms of need, adequacy, effectiveness, and relevancy.

2.5.3 Development of Curriculum

For the purpose of this research, curriculum may be defined as the sum of the learning activities and experiences that a student has under the auspices or direction of the school. The curriculum

usually defines the institution's mission and goals. Curriculum defines the educational foundations and contents, their sequencing in relation to the amount of time available for the learning experiences, the characteristics of the teaching institutions, the characteristics of the learning experiences, in particular from the point of view of methods to be used, the resources for learning and teaching (e.g. textbooks and new technologies), evaluation and teachers' profiles. From the reviews it emerged that curriculum development in terms of transdisciplinary themes, the attitudes, skills and concepts given by the IBO should be examined (Hall et al., 2009; Lopez, 2010; Rose, 2007). Curriculum development is a very important aspect of the school setting since it defines a set of decisions about what is taught and how it is taught (Farrant, 1991). To assess curriculum, the three main sub branches of the designed curriculum had to be examined: the written curriculum, taught curriculum, and the assessed curriculum.

From the reviewed studies on the PYP programmes it emerged that the written curriculum can be analysed by collecting the documents related to the curriculum plan made at the beginning of the year; to observe the taught curriculum classroom observations might be conducted using a structured observation schedule. The assessed curriculum might be analysed by collecting plans made by the respective teacher for each of the units of inquiry and other subjects (Hall et al., 2009; Lopez, 2010; Sillisano et al., 2010; Tan & Bibby, 2010).

2.5.4 Pedagogical Practices

For the purpose of this study, pedagogical practices refer to various types of instructional tasks and types of activities to which students are directed / instructed to act by the teacher during the teaching learning process or in a particular pedagogical setting (observing an experiment in the laboratory, way to read the books in library). Simon and Tzur (1999) define teachers' practice as

"… not only everything that teachers do that contributes to their teaching (planning, assessing, interacting with student) but also everything teachers think about, know and believe about what they do" (p. 254). The review shows that pedagogical practices are an important characteristic to know about the learner, teachers, learner-teacher relationships and about the learning environment in the school. So, if a school program has to be critically analysed then the pedagogical aspects should be also studied. The following four points/indicators of the pedagogical practices might be considered while interviewing the students and teacher or or observed in the classroom**:**

- **Teachers' Role as a Facilitator**: This refers to the environment that the teacher creates to facilitate learning by motivating the learners, supporting them with learning resources wherever required, developing rapport with the students by sharing and respecting the autonomy of the learner reinforcing the self-initiation of the learner. Though the curriculum and facilities are important aspects of school, the critical functions of the school occur within a narrowly constrained paradigm of learning, learners, and learning environments provided by the teachers (Bingler, 2000; Fielding, 1999). This might be assessed by a classroom observation schedule.

- **Learners' Role:** For the purpose of this research, learners' role refers to the various behaviours exhibited by the learner during the learning process. The various behaviours include acceptance of challenges, taking initiative, decision making, using feedback, preparing learning resources, asking questions and searching for answers, exploring new information and controlling the classroom activities either in a group or individually.

These aspects of the learner can be analysed using a classroom observation schedule, by analysis of the anecdotal records gathered by the teachers, and through interviews with teachers and students.

- **Classroom Environment:** Classroom environment in this study encompasses a broad range of educational concepts, including the physical setting, the psychological environment created through social contexts, and numerous instructional components related to teacher characteristics and behaviours. Classroom climate and interpersonal teacher behaviours can have a significant impact on student learning (Goh & Fraser, 1996; Goh, Young & Fraser, 1995). The review suggest that focused group discussion with students about the type of classroom environment (child centered/teacher centered), the classroom climate, interactions (teacher-learner, learner-learner, group interaction), and availability of learning resources can yield insights into classroom environment.

- **Curriculum Transaction:** For the purpose of this study, curriculum transaction is the process of communication of ideas/knowledge/concepts or exchange of knowledge carried out between teachers and the students. The review suggests this indicator has a significant (Metais, 2003; Rose, 2007; Sillisano et al., 2010) impact on primary school programs. The information for curriculum transaction in the IB schools can be collected by documenting the classroom activities/interactions related to the six transdisciplinary themes, learning materials, learning resources, learner initiated activities, teacher initiated activities, experiments and field visits carried out, noting reflection of the learner and teacher, and identifying the relevance of the curriculum transaction in terms of the IB

Learner Profile and learning outcomes (grades). Information can be gathered through classroom observation, document analysis, interviews with the principal and coordinator, and focus group discussion with students.

2.4.5 Learner and Learning Outcomes

The learning outcomes of the students in a school have a positive effect on the overall effectiveness of the school program (The World Bank, 2007). Learner achievement can be one indicator of teacher effectiveness. The learning outcomes/performance of students can be an indicator of the effectiveness of the school program. Some of the points/indicators which might be considered under the 'learner and learning outcomes dimension' might be:

- **Entry Behaviour**: For the purpose of this study, entry behaviour is the knowledge that a student has related to a particular topic before it is actually taught. Through this indicator the knowledge and the understanding of the student for a particular topic can be investigated by conducting student interviews or administering a pre-test.

- **Learning:** For this research study, learning is defined as the observable change in the behaviour of the learner after content is taught or an experiment or field visit is conducted. Learning has emerged as one form of feedback into the larger educational system and can influence institutional structures and processes (Ed. CIL, 2005). It also provides feedback to teachers for further planning of content and teaching methods. During the course of background research for this project, focus groups were held with PYP teachers during a symposium arranged by the authors. The group in the symposium

suggested that this indicator should be analysed in terms of 1) meaningful learning 2) differentiated learning 3) holistic learning and 4) the appropriate use of learning resources.

- **Learning Problems:** This refers to the problems faced by the students while the concept is being transacted or difficulty in developing their understanding of lesson objectives. Measuring this aspect will help to identify difficulties in the planned curriculum. Learning problems might be elicited by having focused discussions with the students or by diagnosing difficulties from a test administered to the students for different subjects.

- **Learning Outcomes:** For the purpose of this research, learning outcomes are the sum total of the knowledge gained by the students after a particular academic session is over (Ed CIL, 2005). They can serve as one indicator of teacher effectiveness and provide information on the effectiveness of the approach used to develop (Andrews, 2012; Tan & Bibby, 2010; Wilkerson, 2005). This indicator can also be used to analyse the skills achieved by the students in terms of the content, thinking, social development, communication, self-management, and research as well as attitude towards learning. The results for this indicator might be obtained by administering subject specific tests (mathematics, science or English) and a questionnaire/scale to measure the various skills developed in the students.

2.5.6 Parental Involvement

Parental involvement can include many different indicators, such as knowledge of assignments and teacher expectations, providing materials and time to do projects, expecting quality work from their child, checking grades and expecting homework to be done or reviewed daily (Henderson & Berla, 1994). Parental involvement can also include parent groups who work to organize extra-curricular activities (a cultural evening, providing funding or support for clubs). Parental involvement provides valuable feedback to school authorities about the curriculum transaction, student learning, and the non-scholastic activities carried out in the school, hence providing scope to improve the different aspects of school system. In the symposium conducted by the authors, PTA meetings emerged as an indicator for assessing parental involvement in PYP schools. It was suggested that aspects like general agenda meetings (regarding the fees structure, the curriculum, matters related to affiliation, etc.), the number of PTA meetings conducted in a year and the activities done during meetings (decision making, financial resources, cultural programs, etc.) could provide valuable insights about the role parents play in PYP schools in India. The information related to these meetings in terms of frequency and agenda might be gathered by an analysis of documents including PTA meeting attendance registers. Group discussion with parents can be conducted to obtain a deeper understanding of these meetings.

2.5.7 Management of the PYP

Management is the process of designing and maintaining an environment in which individuals are working together efficiently in groups to accomplish selected aims (Putti, Koontz & Weihrich, 1998). This implies that the management of the IB PYP schools should also have a proper design with respect to various aspects of school management like selection criteria for various human resources (teachers, students, principals, coordinators, non-teaching staff), criteria

for curriculum, maintenance of infrastructure and proper channelizing of finance. The school management should also coordinate with parents, the community and students for effective functioning of the program. The management of the PYP is an important feature of the IB schools which requires careful examination. The ideas below were conceptualized within the context of the research project and were used as key ideas for developing research tools and also to develop a framework for data analysis for the study.

- **Coordination of the PYP Schools with the IB Organization:** This indicator refers to the coordination that PYP schools have with the IB Organization in terms of following guidelines given regarding the various aspects of management including curriculum design, staff selection, report making, maintenance of the infrastructure and procedures of documentation (Lopez, 2010). An interview with the coordinator and principal could be used to gain insight related to this indicator.

- **Coordination of the IB Coordinator with the Principal:** The relationship between the principal and the IB coordinator is very important for the proper functioning of the PYP (Hartman, 2008; Zakrzewski; 2012). The reviews suggested considering aspects like teacher selection criteria, staff development and motivation programs, teacher appraisal, and autonomy of the coordinator (in terms of designing, implementation, evaluation and utilization of resources) (Gosnell-Lamb, 2011)**.** Data in this area could be collected through an analysis of documents related to principal-coordinator's meetings and interviewing the teachers, principal and coordinator**.**

- **Coordination with Other IB PYP Schools (Networking):** This aspect refers to the interconnectedness of various IB schools in the same country and plays an important role in the sharing of ideas and different strategies in terms of instructional practices as well as management strategies. The reviews suggest that under this indicator aspects like communicating with other schools while designing the curriculum (scholastic and non-scholastic) and sharing resources with other IB schools can be considered**.** This indicator might be assessed by interviewing the PYP coordinator, principal and teachers.

- **Coordination with Stakeholders:** It is necessary for managers to inform all stakeholders about the decisions and the situation of the organization in order to create an atmosphere of mutual trust and to achieve effective organizational climate. The reviews show management (principals and other administrators) should consider the various stakeholders related to the IB PYP like parents, teachers and students. To manage these stakeholders well the Head/Principal should be a good leader. The tasks to be performed by the management as reflected from the reviews are communicating the different matters (curriculum, financial, organising of activities, achievement of the students) with parents, ensuring teachers' autonomy while planning the curriculum, providing orientation and training to the teachers, organizing the resources, and informing the students about the curriculum, assessment and other activities (scholastic and non-scholastic) (Angrist & Lavy, 2002; Hartman, 2008; Zakrzewski, 2012). These aspects can be assessed by gathering information from the attendance roster of the PTA meeting, attendance roster of the student committee, interviews with community members and interviews with parents, teachers and students.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction

The current study is case study research that utilizes surveys, interviews, and observations to critically analyse the IB PYP in India. The objectives of this study were:

1. To study the implementation of the IB PYP curriculum framework, standards and practices by PYP schools in India, particularly in terms of pedagogy, processes and learning outcomes (both academic and non-academic dispositional attributes such as the IB Learner Profile and well-being).

2. To study the perceptions of the teachers, students, parents, school heads and PYP coordinators concerning the implementation of the IB PYP. To examine closely the impact on the whole school learning environment, including the school leadership culture and management, paradigm shifts (if any) in teaching/pedagogical practices, student academic learning outcomes and student non-academic dispositional attributes (such as the IB Learner Profile and well-being).

3. To study the benefits and challenges of implementing the IB PYP as experienced by schools in terms of institutionalization (i.e., alignment and internalisation of educational philosophy and standards and practices at the whole school level, including at the leadership level), capacity building and paradigm shifts (if any) of teachers, students' learning outcomes (both academic and non-academic), and other social, cultural, economic and regional variations in India.

In order to achieve these objectives, instruments were developed and identified to collect the required data and administered over a chosen sample of IB PYP school heads, PYP teachers, PYP students and parents of PYP children following a definite procedure. Data collected were analysed both qualitatively and quantitatively. This chapter deals with the methodological details of the study including research questions, identification of sample schools, research tools and techniques used.

3.2 Research Questions

1) What are the contributing factors for adopting and implementing the IB PYP in schools of India?

2) How is the IB PYP implemented, enacted, adapted and experienced in schools in terms of students' perceptions, parents' aspirations and teachers' experiences?

3) To what extent and in what ways has the IB PYP made an impact on (i) teachers pedagogical beliefs and practices (ii) student learning outcomes (scholastic and non-scholastic) and (iii) organizational culture of the school?

4) What are the benefits and challenges for successful PYP implementation and integration in Indian IB Schools?

3.3 Identification of Sample Schools

As of this research, there are 80 IB World Schools in India offering one or more of the three IB programmes. Out of 80 IB Schools, 41 of them offer the PYP. All 41 IB schools offering the PYP were considered possible populations for the present study. All of the coordinators, principals, teachers, students and their parents of the 41 IB PYP schools were also considered as a possible population for the present study.

Out of 41 IB PYP schools, 12 schools were selected randomly. Most IB PYP schools are located in industrially developed areas in the western region of India, as well as the southern region. As the purpose of the study was to critically analyze the IB PYP in India, the sample was restricted to 12 schools so that a comprehensive analysis regarding the PYP could be made.

For the second part of the study, all the PYP coordinators and PYP principals (school heads) of the 12 IB PYP sample schools were included; responses were received from 16 of these school heads. Teachers at the IB PYP schools were randomly selected to participate; 11 schools provided teacher data. This resulted in a total of 79 teachers, with a minimum sample size of 5 teachers per school. Further, students were randomly selected to participate from each of the 12 schools, bringing the total student sample to 368 students, with a minimum of 17 students per school. For the parent sample, 96 parents participated in the study, with parent data available from 10 of the schools. Because the aim of this project is to examine the PYP as whole, the unit of analysis is not individual schools. Data will be analyzed collectively.

3.4 Tools and Techniques of Data Collection

The present study was undertaken with the view to critically analyze the IB PYP in India. Keeping this in mind, 13 tools were created/selected. In preparing the research tools for the present study, quality dimensions for the critical analysis of IB PYP have been identified in a Consultative Meeting and Workshop on Development of Research Tools organized by Dr. Pushpanadham (Project Director at the University of Baroda). Ten experts (See Appendix I) in the field of education were invited to identify the different quality dimensions to analyze the IB PYP in India. The expert committee identified seven quality dimensions after discussing various dimensions during discussion sessions. Further, the identified dimensions were presented by the experts for validation. The identified quality dimensions have been listed as follows:

- Institutional Profile
- Teacher Development
- Pedagogical Practices
- Parental Involvement
- Learner and Learning Outcomes
- Management of PYP
- Development of Curricular Inputs (Networking & Documentation)

In addition, some indicators of each identified dimension have been identified along with the data sources and tools per indicator after discussions among the invited experts.

After identifying the above seven indicators and considering the objectives of the present study, 11 tools were selected:

- Institutional Profile

- Questionnaire for School Authorities
- Classroom Observation Protocol
- Leadership Behaviour Descriptive Questionnaire for Teachers (LBDQ)
- Job Satisfaction Scale for Teachers
- Bandura's Self Efficacy Scale for Teachers
- Yadav and Gupta's Emotional Intelligence Scale for Students
- Attitude Scale for the Students
- Achievement tests in Science, Mathematics and Language
- Perception Scale for Parental Involvement in IB PYP, and
- General Perception Scale for Parents

The *LBDQ* by Hallpin and Winer (1952), *Teachers' Self Efficacy Scale* by Bandura (1997) and *Emotional Intelligence Scale for Students* by Yadav and Gupta (2011) were adapted and suitably modified. Modifications included changes to the stems to make the instrument suitable for the audience. Response scales were not modified, meaning the order and number of response options was not altered. Researcher-designed instruments were created to be as consistent as possible with the previously validated instruments, resulting in instruments with similar response orders. Often, responses are ordered positive to negative, from left to right. However, numeric values are assigned so that positive responses receive higher values. For example, the scale developed by Yadav and Gupta (2011) was used for this study and it provided rating options in the following order: Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1). Modified versions were used for data collection. All the prepared tools were sent to experts for validation and accordingly suggestions were incorporated and the tools were

finalized. Along with these, Personnel Data Sheets containing items related to each teacher's, age, experience, qualification, and nature of job were collected. A complete set of the tools are presented in Appendices (II-XIV). Details of the developed tools are as follows.

3.4.1 Institutional Profile

The institutional profile consisted of nine sections: general information of school, infrastructural facilities available, enrolment of students in the PYP, nature of funding, teachers' profiles, teachers' professional development, parents' participation, and major challenges. This questionnaire included 58 closed as well as open-ended questions distributed in eight sections. For further details please see Appendix II.

3.4.2 Questionnaire for School Authorities

The questionnaire for school authorities consisted of three major sections: general details, coordination, and teacher development. The coordination section was further divided into four sub sections: coordination with principal, coordination of IB curriculum, coordination with other schools, and coordination with stakeholders. This questionnaire included 54 closed as well as open-ended questions distributed in three sections. For further details please see Appendix III.

3.4.3 Classroom Observation Schedule

The classroom observation schedule contains a total of 59 items organized in three major parts: pre-active, inter-active and post-active phase. Twelve statements regarding the teachers' awareness of the PYP curriculum framework, preparation according to the level and age of students, content analysis, objectives of lesson, selection and planning of appropriate teaching

method/s and activities, consideration of psychological principles and previous knowledge of students, and development of learning resources were included in the pre-active phase whereas statements related to evaluation techniques used, learning outcomes, instruction for evaluation, evaluation activities, quality of homework and achievement of learning objectives were included in post-active phase.

The inter-active phase section of the classroom observation schedule has been further divided into three parts: teaching-learning process, use of skills and classroom management. Teaching-learning process included statements related to appropriate use of teaching techniques, meaningful communication, involvement of learners, activities of learners, use of local and global learning resources, encouragement and appreciation of learners, development of conceptual understanding, demonstration of positive attitude, demonstration of responsible behaviour, presentation of creative ideas, monitoring of the needs and capabilities of each student and teaching accordingly, teaching pace, interlinking between personal, social and intellectual learning, feedback concepts and skills, and utilization and revision of the transdisciplinary model. The use of skill part outlines the observation of 13 major skills of the teaching-learning process: introduction of lesson, questioning, reinforcing, explanation, illustration with examples, stimulus variation, silence and non-verbal cues, gestures, probing of questions, techno-pedagogy, use of teaching aids, use of blackboard, and achieving closure. For further details refer to Appendix IV.

3.4.4 LBDQ for Teachers

This LBDQ prepared by Halpin and Winer (1952) was adapted and used with necessary modifications and changes in the statements based on the setting. The LBDQ was designed so that group members could describe leader behaviour. Each item describes a specific behaviour. Respondents indicate the frequency they perceive the leader engages in the behaviours. Two dimensions of leadership were identified by factor analysis in previous research using the LBDQ: Consideration and Initiating. Consideration contains items that have underlying components related the leaders' ability to establish mutual trust and respect, while Initiating structure includes the items related to the leaders' ability to establish effective channels of communication (Halpin, 1957). Based on the research by Halpin (1957) the estimated reliability is .83 for initiating structure scores and .92 for consideration scores when corrected for attenuation using the split-half method. The LBDQ has been used in many studies i.e. Halprin and Winer (1952), Fleishman (1953), Fleishman, Harris & Burtt (1955), Hemphill (1957) and Stogdill and Coons (1957). The adapted LBDQ contains a total of 41 statements related to the leadership behaviour of the PYP principals. All 41 items of the LBDQ were to be rated on a scale ranging from Always (A) to Never (D) by tick mark (√). One open-ended question regarding the leadership behaviour of the PYP principal was also included to solicit free response from the teachers. For further details refer to Appendix V.

3.4.5 Job Satisfaction Scale for Teachers

This researcher-created rating scale consisted of 20 items pertaining to the service and other general conditions in a school, such as the opportunity for professional and in-service programmes, job security, career advancement, salary, security, physical facilities, communication and information flow, leadership of the principal, parental involvement,

recognition and appreciation of creative work, performance appraisal procedures, students' discipline, encouragement for innovative teaching, collaboration with other schools, international linkage, and autonomy. All 20 items were to be rated on a scale from Highly Satisfied (HS), Satisfied (S), Neutral (N), Dissatisfied (D) and Highly Dissatisfied (HD) by tick mark (√). Along with the scale, four open-ended questions regarding problems, needs, factors affecting their job and suggestions were included to solicit free response. For further details refer to Appendix VI.

3.4.6 Self Efficacy Scale for Teachers

Bandura's Teacher Self Efficacy Scale (1997) was used without modification as the scale was specially designed for school teachers. Self-efficacy refers to one's perceived capability to produce a specific outcome or perform a specific task (Bandura, 1997). Self-efficacy for teaching refers to the perceived ability of teachers to execute the required components of the job successfully (Bandura, 1997). This scale consisted of 30 items organized into the following topics: teachers' efficacy to influence decision making and school resources, instructional and discipline efficacy, efficacy to enlist parents and community involvement, and efficacy to create positive school climate. Each item is measured on a nine-point scale that includes the range of responses: Nothing, Very Little, Some Influence, Quite a Bit, and A Great Deal. This measure does not focus on a specific context; instead it attempts to assess efficacy across a wide range of activities in the hopes of providing a multi-faceted description of teaching self-efficacy. It should be noted that there is not one measure for overall self-efficacy because self-efficacy can vary based on the domain or context (Bandura, 1997). For further details please refer to Appendix VII.

3.4.7 Emotional Intelligence Scale for Students

This Emotional Intelligence Scale was adapted developed by Yadav & Gupta (2011). The version used in this study was modified to be age appropriate for the PYP students. The scale was originally developed for adults. This scale consisted of a total of 61 items. In previous research five dimensions of Emotional Intelligence were identified and used as the basis for the scale: Self-Awareness, Self-Regulation, Self-Motivation, Empathy, and Social Skills (Yadav & Gupta, 2011). For the purpose of the scale the following definitions are used (Yadav & Gupta, 2011):

- Self-awareness is the emotional skill of being able to identify and label feelings.
- Self-regulation is the process of managing ones impulses.
- Self-motivation is the drive to achieve goals.
- Empathy is awareness of the emotions of others and taking an interest in their concerns.
- Social skills refer to the ability to generate positive responses from other people.

All the items were rated on a scale ranging from Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD) by tick mark (√). Face validity was demonstrated by 100 percent agreement among five judges of Department of Psychology, Lucknow University, regarding the relevance of the items and the content being measured by the scale (Yadav& Gupta, 2011). For further details refer to Appendix VIII.

3.4.8 Attitude Scale for the Students

Forty statements pertaining to the students' attitudes towards their IB PYP school, the teaching-learning process, and PYP teachers were included in this scale. The respondents were asked to rank agreement using a five-point scale that included Strongly Agree (SA), Agree (A),

Undecided (UD), Disagree (D) and Strongly Disagree (SD). For further details refer to Appendix IX.

3.4.9 Scholastic Tests for Grade V PYP Students

Scholastic tests in science, mathematics and English were prepared to gain insights into the achievement of the Grade V PYP students. For further details refer to Appendices X, XI and XII.

3.4.10 Parents' Perception Scale for Involvement in IB PYP

The Parents' Perception Scale for Involvement in the IB PYP consisted of 30 items distributed in three sections: Parents' Association (PA), Parent Teacher Association (PTA), and Parental Involvement in IB PYP. The PA section contained five items related to availability of PA, their membership, PA meetings and their attendance in PA meetings. The PTA section consisted of 12 items related to the availability of the PTA, their membership, PTA meetings, attendance of parents and teachers at PTA meetings, benefits and opportunities from the PTA, arrangement of financial and other resources by PTA, and the role of the PTA in decision making. The parental involvement section consisted of 13 different items related to the involvement of parents in the IB PYP. The scale included: Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), and Strongly Disagree (SD).

Additionally, 10 open-ended questions related to reasons for attending and not attending PA/PTA meetings, problems regarding facilities, fees, curriculum and its transaction, child's progress, agenda and role of PA/PTA in decision making, expectations from the IB PYP, major

issues and challenges of the IB PYP in India and their needs to strengthen the IB PYP in India were also asked. For further details please refer to Appendix XIII.

3.4.11 General Perception Scale for Parents This General Perception Scale for Parents consisted of 19 items distributed across two sections: general perception towards IB PYP and perceptions of the IB PYP curriculum. The first section contained eight items related to the awareness of IB PYP objectives, quality and scope, admission process and fees, satisfaction about their child's progress and visits to the school for monitoring child's progress whereas the later section consisted of 11 items related to awareness about the PYP curriculum patterns, opportunity for their child to be familiar with local and global issues, awareness among teachers about their child's strength and limitations, involvement of their child, satisfaction regarding the curriculum pattern and activities provided and their perceptions regarding the curriculum and teaching process. Respondents were asked to indicate their agreement using a tick mark (√) in these categories: Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), and Strongly Disagree (SD). For further details please refer to Appendix XIV.

Additionally, two open-ended questions related to location of the school and reasons for sending their child to IB PYP schools were included. At the end parents were asked to give their comments on any of the aspects of IB PYP including curriculum, assessment, teachers or any aspect not covered.

3.5 Organization of Data Collection

The field work for the present study was carried out in two phases in the period from February 2012 to June 2012. In the first phase of data collection, the project director mailed Institutional Profiles to all 12 selected schools. Along with the tool, arrangements for a school visit and data collection were made.

During the second phase, the project director contacted all the sample schools and mailed the schedule for data collection. After receiving confirmation from the school authorities, the project director formed an expert committee for visiting each IB PYP school. Three expert members in the field of education were selected per school. They were provided a tool kit containing all the tools along with time schedule, name, address and contact details of the authorities of concerned schools. The committees visited all 12 IB PYP schools and collected data.

Chapter III focused on the research methodology, selection of sample schools, research tools and techniques used, and procedure of data collection. Chapter IV presents the characteristics of IB schools, students and staff identified in the data.

CHAPTER IV

CHARACTERISTICS OF IB SCHOOLS, STUDENTS AND STAFF

In order to critically analyze the IB PYP in India, data were collected from the various sources i.e. IB PYP school heads, PYP teachers, PYP students and parents of PYP students through the questionnaire for school heads, LBDQ, job satisfaction scale, classroom observation schedule, self-efficacy scale and questionnaire for teachers, emotional intelligence and attitude scale for students, perception scale and questionnaire for parents. The collected data were analyzed using frequency, percentages, mean, standard deviation (SD), t-test and content analysis techniques. The characteristics identified in this research study of IB schools, students and staffs are presented below.

4.1 Profile of IB Schools in India

As of this research, there are 97 schools offering one or more of the three IB programmes in India. The Diploma Programme is the most popular (85), when compared to the Middle Years Programme (MYP) (11) and the PYP (41). Most of these schools are located in the industrially developed areas of India. It was found that the majority of the schools offering the PYP are in the western region of India. However, there are a few schools offering the PYP in the southern region. The eastern and northeastern regions of India do not have any IB schools at this time and even in the northern part, with the exception of Delhi, IB programmes are not in operation in the states of Utter Pradesh, Bihar, Chhattisgarh, Jharkhand, and Uttaranchal. On the eastern side, in states like Odessa and West Bengal, IB programs are not being offered in schools. Most of the IB schools in India are managed by private organizations including the corporate sector. The

majority of the schools are located in semi-urban areas of metro cities, where the socio-economic status of people is comparatively high and where expats reside. It was found from the study that majority of the schools have their own spacious building with many amenities for the students and the staff. Most of the schools have adequate infrastructure, qualified teaching staff and administrative staff with well-defined roles and responsibilities. PYP coordinators are appointed for the PYP in all schools and coordinators are working in close coordination with the school principal. It was found from the institutional profiles that the number students in PYP have been increasing each year. It was observed that over the years the PYP has gained public attention and has become a popular choice of the people for the education of their children.

4.2 Management in Terms of Processes of the IB PYP

The curriculum management in terms of pedagogical inputs and processes of IB Primary Years Programmes has been studied through the data collected from the PYP school heads (coordinators and principals) through the Questionnaire for School Authority. The collected data from 16 school heads has been analyzed using frequency and percentage, and is presented below:

4.2.1The Role of School Heads

- Fifty-percent of the school heads used the IBO website and email to coordinate the PYP programme. Five (31 percent) school heads were coordinating with the IB regarding any issue through school coordinator. The remaining school heads were coordinating with IB through IB conferences and workshops.

- Ten (63 percent) PYP school heads were planning and executing development activities for the PYP staff using outside experts to hold workshops and trainings. One school head was planning and executing development activities for the PYP staff using internal resources such as the IB PYP coordinator.

- PYP school heads were appraising PYP teachers through 1) classroom observation, 2) planning and organizational skills 3) self-appraisal by teachers, 4) enthusiasm and involvement in Co-Curricular Activities (CCA) and 5) interaction with colleagues, parents and students. Three school heads had mentioned that the appraisal process is currently under review.

- Twelve (75 percent) PYP school heads were monitoring PYP teachers through classroom observations and walk-throughs enabling the sharing of best practices. Three (19 percent) school heads were monitoring through periodical appraisals by the teacher (self-reflection), coordinator, principal/management, and also weekly meetings that enabled the checking of documents/daily log books and created an opportunity for sharing suggestions for effective teaching-learning.

- School heads involve themselves in curriculum design in different ways. Six (38 percent) PYP school heads were designing PYP curriculum using exclusively the IB documents (standards and practices, framework, and PYP guidelines). Four (25 percent) school heads were designing PYP curriculum through collaborative efforts with PYP teachers. Two school heads were concerned with addressing national requirements and used national education documents in the planning process.

- PYP school heads were adapting the PYP curriculum by taking consideration of the social needs of the local community (five school heads), national needs (two school heads), and other reasons (two school heads). Twelve (75 percent) school heads mentioned that the decision making process is collaborative in nature and involves all stakeholders.

- PYP school heads indicated that PYP teachers are involved in functional level decisions like planning and organization of Curricular Activities (CA) and Co-Curricular Activities (CCA) (six school heads), maintenance and requirement of resources (four school heads) and parents and student related issues (two school heads).

4.2.2 Coordination of IB PYP Schools with Other Schools

The coordination of PYP schools with other schools has been studied through the results of the Questionnaire for School Authority, presented below:

- Eleven (69 percent) school heads mentioned that their schools are coordinating with other IB PYP schools in India regarding curriculum design (sharing best practices, scholastic and non-scholastic competitions, and resource sharing).

- Eight (50 percent) school heads mentioned that their schools are not coordinating with central board schools in India because it is not required, five (31 percent) school heads mentioned that their schools are coordinating with central board schools (sharing best teaching-learning strategies, maintaining level of curriculum, scholastic and non-scholastic competitions, and resource sharing).

4.2.3 Coordination with Stakeholders

The coordination of PYP schools with stakeholders has been organized into categories (involvement of parents, PTA, local community and students, and the existence of an alumni association) to enable easier analysis. The results of the analysis are below.

- Seven (44 percent) school heads mentioned the involvement of parents as a partner in coordination of IB PYP. For each of the following, three school heads indicated parental involvement: the PTA and through frequent orientation and communication through the school network. Additionally, one school head indicated parents are involved in coordination of IB PYP through involvement in extra-curricular activities.

- School heads indicated the PTA provides necessary suggestions (31 percent), arranges events at the school (19 percent), and provides orientations to new parents about the IB (25 percent).

- Seven (44 percent) school heads mentioned that the local community is involved in coordination of IB PYP through sharing facilities, practices and success stories.

4.2.4 Characteristics of IB PYP School Heads

The characteristics of IB PYP schools' heads were analyzed using data from the Leadership Behaviour Descriptive Questionnaire (LBDQ) for Teachers (Halpin & Winer, 1952). Data were collected from the PYP school teachers about their school head. The analysis is presented using mean, standard deviation, and composite scores.

4.2.5 Leadership Behaviour

The data regarding the leadership behaviour of PYP principals was collected from the PYP teachers through the modified LBDQ. The analysis of the data related to the leadership behaviour of the PYP principals is presented in Table 1. Individual schools were not the unit of analysis; results were combined to provide a picture of PYP leadership collectively.

Two dimensions are identified in the LBDQ instrument: consideration and initiating structure. Consideration is understood as the ability to establish mutual trust and respect, while Initiating Structure is understood as the ability to establish effective communication processes (Halpin, 1957). Both dimensions are comprised of two unique sets of 15 items from the survey, as indicated by the by the creators of the instrument (Halpin, 1957). Composite scores were used to summarize the findings because this enables multiple items to be combined to provide an overall measure of a broader idea. In this study, the 15 individual items for each dimension were combined to provide a composite score for each dimension. Each of the 79 respondents to the survey, responded to questions on a scale of 1-5, with a 0 for a non-response. Because composite scores were created, any non-response participants were removed from the computation to avoid a negative bias in the scores. After removing non-responses, the Consideration dimension had a total sample size of 60, and the Initiating dimension had a total sample size of 58.

Table 1

Means and Standard Deviations for the Leadership Dimensions

Dimension	Mean	SD
Consideration (N=60)	63.2	7.253
Initiating (N=58)	63.9	4.822

The Consideration Dimension had a mean score of 63.2 with a standard deviation of 7.253. This is much higher than previous research indicated in the manual (Halpin, 1957), which suggests a range of means between 37.9 and 41.6. Sample sizes in this study were comparable to previous research. Additionally, a reliability coefficient (Cronbach's Alpha) was included for this factor, which yielded a result of .793. This is a high measure of internal consistency, and indicates that the items should satisfactorily measure the same construct.

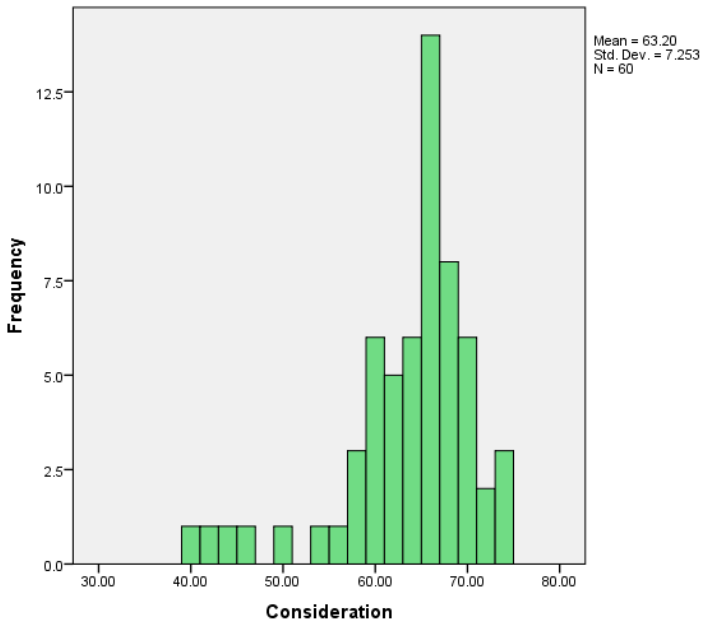


Figure 2. Histogram measuring consideration leadership dimensions. Scores are more closely clustered around the mean of the dimension and the mean response was higher than in Halpin's manual (1957).

The Initiating Structure dimension had a nearly identical mean score of 63.9 but a much smaller standard deviation of 4.822, indicating that the scores are more closely clustered around the

mean of the dimension, as evidenced by the histogram below. This mean response was also much higher than the previous research indicated in the manual (Halpin, 1957), which offered a range of means between 41.4 and 44.8. The measure of internal consistency was .604, which is generally satisfactory, although higher scores are preferred. Additionally, the Pearson correlation between the two dimensions was .564, indicating that nearly 32% of the variance in one dimension can be accounted for by variation in the other dimension.

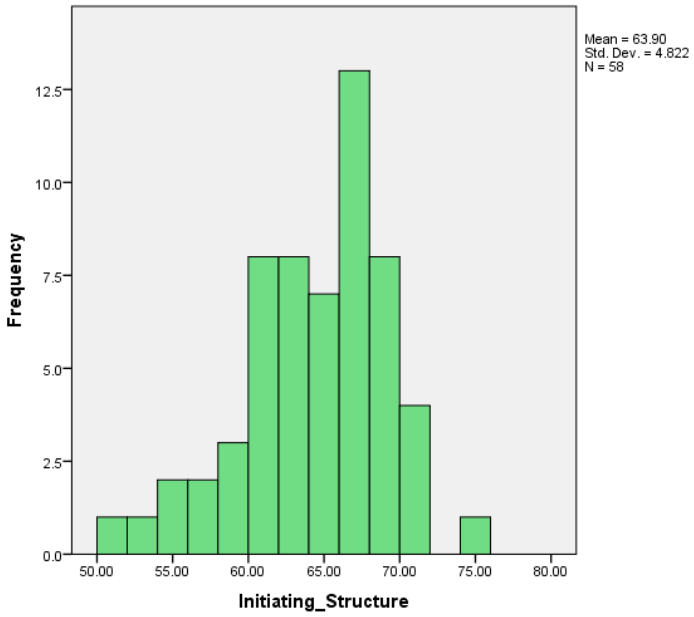


Figure 3: Histogram of PYP teacher response. Results showed that teachers believed school leadership was effective in establishing mutual trust (Consideration) and effective communication (Initiating Structure).

4.3 Characteristics of Students

The characteristics of PYP students were analyzed through the data collected from the profile of Grade V PYP students, emotional intelligence scale and attitude scales.

4.3.1 Profile of Grade V PYP Students

The profile of Grade V PYP students is summarized using gender, age, place of residence, and urban/rural categorization. Twelve schools participated in the study, with enrolment frequencies ranging from 17 to 69, with a median school size of 20. In total, there were 368 profile responses. There was an almost even split with regard to gender, with males comprising 52.4% of the sample, females at 45.4%, and 2.2% that didn't respond. Nearly 86 percent (85.9%) of students were aged 10 or older, with 12.5% below age 10. Further, 1.6% did not respond. In regard to residence, the vast majority (82.1%) lived in an owned home. Lastly, 79.9% described their habitat as urban, while 2.2% described it as rural, and 17.9% abstained from responding. In general, this sample appears to be evenly distributed with regard to gender, with significantly greater proportions of students at or above age 10, living in an owned home in an urban community.

4.3.2 Emotional Intelligence of Grade V IB PYP Students

Emotional intelligence of PYP students was measured through the modified version of the Emotional Intelligence Scale developed by Yadav & Gupta (2011). A total of 61 items were included in the scale. Grade V PYP students (N=368) responded to the emotional intelligence survey which was analyzed by calculating mean scores for the group on each of the items. Means were calculated for each item, after removing students who did not respond. Responses for individual items ranged from 352 responses to 368 responses. Thirty-three items were phrased in such a way so that strong agreement indicates strong emotional intelligence. However, 28 items were phrased in such a way so that the reverse is indicated. To make those items comparable to the other items, they were reverse scored. The scores are summarized in the table below (Table

2). Students generally responded with strong agreement to the positively stated items and with strong disagreement to the negatively stated items, indicating a high degree of overall emotional intelligence.

Table 2

Summary of Descriptives for the Emotional Intelligence Scale

	Positively Stated Items (Strong agreement (5) indicates high emotional intelligence)	Negatively stated Items (Strong disagreement (1) indicates high emotional intelligence)
Mean	4.170303	1.876429
Max	4.7	2.13
Min	3.76	1.53
Median	4.17	1.92
Sample item	I am fully aware of my anger and its consequences.	If I don't succeed in home work, I quit it.

Previous research using the scale identified five dimensions of Emotional Intelligence (Yadav & Gupta, 2011). However, this research study was not able to examine scores by dimension. Further research can provide information on student scores for each dimension.

4.3.3 Attitude of PYP Students towards the IB PYP

The attitude scale was administered to the Grade V PYP students. The scale consisted of 30 items pertaining to the students' attitude towards the IB PYP School, the teaching-learning

process, and PYP teachers. The responses of the Grade V PYP students are described using frequency and percentage. Table 3 summarizes the results of attitude scale completed by 368 Grade V PYP students.

Table 3

Analysis of the Grade V PYP Students' Attitude towards the IB PYP

Section	Items	SA	A	UD	D	SD	NR
Attitude towards School	IB PYP is very interesting	282 (76.6)	56 (15.2)	21 (5.7)	3 (0.8)	1 (0.3)	5 (1.4)
	Like studying in an IB school	270 (73.4)	69 (18.8)	24 (6.5)	00	00	5 (1.4)
	Teachers are very cooperative and helpful	281 (76.4)	64 (17.4)	16 (4.3)	00	1 (0.3)	6 (1.6)
	Enjoying IB schooling	261 (70.9)	67 (18.2)	31 (8.4)	2 (0.5)	00	7 (1.9)
	IB PYP provides lots of learning opportunities	276 (75)	60 (16.3)	18 (4.9)	4 (1.1)	2 (0.5)	8 (2.2)
	Liking the physical environment of the school	254 (69)	83 (22.6)	19 (5.2)	3 (0.8)	3 (0.8)	6 (1.6)
	Feeling safe in the school	258 (70.1)	75 (20.4)	19 (5.2)	9 (2.4)	1 (0.3)	6 (1.6)
	School encourages to be creative	252 (68.5)	87 (23.6)	16 (4.3)	6 (1.6)	1 (0.3)	6 (1.6)

	Meaningful and important projects are assigned by IB PYP school	243 (66)	85 (23.1)	32 (8.7)	2 (0.5)	00	6 (1.6)
	Enjoy learning through project work	254 (69)	82 (22.3)	15 (4.1)	7 (1.9)	1 (0.3)	9 (2.4)
	Have a choice to decide the way we like to work for the project	227 (61.7)	86 (23.4)	37 (10.1)	5 (1.4)	4 (1.1)	9 (2.4)
	Learning in a group	210 (57.1)	102 (27.7)	33 (9)	9 (2.4)	6 (1.6)	8 (2.2)
	Try to do my best in school	288 (78.3)	58 (15.8)	14 (3.8)	00	00	8 (2.2)
Attitude towards Teaching-Learning	School involves me in decision making process regarding class activities	213 (57.9)	92 (25)	39 (10.6)	11 (3)	4 (1.1)	9 (2.4)
	Classroom has face to face discussion between teachers and students	228 (62)	69 (18.8)	47 (12.8)	12 (3.3)	4 (1.1)	8 (2.2)
	Teachers identify my learning difficulties	235 (63.9)	94 (25.5)	20 (5.4)	4 (1.1)	4 (1.1)	11 (3)
	School provides sports, clubs and other activities outside of the classroom	230 (62.5)	76 (20.7)	42 (11.4)	7 (1.9)	2 (0.5)	11 (3)
	Enjoy the program of inquiry in class	253 (68.8)	72 (19.6)	27 (7.3)	3 (0.8)	3 (0.8)	10 (2.7)
	Have learnt social responsibility in PYP	235 (63.9)	91 (24.7)	26 (7.1)	3 (0.8)	1 (0.3)	12 (3.3)

Attitude towards Teachers	Consider PYP a joyful learning experience	279 (75.8)	52 (14.1)	22 (6)	5 (1.4)	00	10 (2.7)
	Made aware of mistakes in the school	223 (60.6)	102 (27.7)	23 (6.2)	6 (1.6)	2 (0.5)	12 (3.3)
	Always appreciated for creative work in the school	210 (57.1)	88 (23.9)	45 (12.2)	7 (1.9)	4 (1.1)	14 (3.8)
	More concerned about learning than getting good grades	196 (53.8)	79 (21.5)	50 (13.6)	20 (5.4)	10 (2.7)	13 (3.5)
	Teachers always praise for accomplishments	224 (60.9)	73 (19.8)	41 (11.1)	10 (2.7)	4 (1.1)	16 (4.3)
	Afraid of PYP teachers	33 (9)	26 (7.1)	46 (12.5)	56 (15.2)	191 (51.9)	16 (4.3)
	Hard work is always rewarded	182 (49.5)	102 (27.7)	50 (13.6)	12 (3.3)	8 (2.2)	14 (3.8)
	PYP teachers are always supportive	262 (71.2)	59 (16)	28 (7.6)	2 (0.5)	2 (0.5)	15 (14.1)
	PYP teachers are hard task masters	183 (49.7)	48 (13)	41 (11.1)	22 (6)	60 (16.3)	14 (3.8)
	Learning discipline from PYP teachers	243 (66)	82 (22.3)	23 (6.2)	4 (1.1)	1 (0.3)	15 (4.8)
	PYP teachers are my role models	208 (56.5)	63 (17.1)	53 (14.4)	18 (4.9)	13 (3.5)	13 (3.5)

(SA=Strongly Agree, A=Agree, UD=Undecided, D=Disagree, SD=Strongly Disagree)

(The figure in the parentheses indicates percentage.)

Table 3 summarizes the data related to the attitude of the PYP students towards the IB PYP. The data suggests that out of the 368 (100 percent) responding PYP students, the vast majority of the students (over 90 percent) indicated positive feelings towards the school. Additionally, the students indicated positive feelings on the majority of items relating to the teaching-learning process. Specifically, 89 percent of the students agreed that the school projects assigned to them are meaningful and important, 85 percent of the students agreed they had choices to decide the way in which they like to work, and 83 percent of PYP students agreed they were involved in decision making. While agreement for all items was at least 70 percent, it is interesting to note the item with the lowest agreement related to the importance of grades. Seventy-two percent of PYP students were concerned more about their learning than getting good grades, but eight percent of the students did not agree that learning was more important than good grades.

Overall, the students indicated positive attitudes towards their teachers. Specifically, 80.43 percent of PYP students agreed that their teachers always praise them for their accomplishments, 77.17 percent agreed that their hard work is always rewarded, and 87.22 percent agreed that their teachers are supportive. It is interesting to note that 16 percent of students indicated they were afraid of their teachers.

4.3.4 Academic Performance on Scholastic Tests

In order to analyze IB PYP learners' academic performance, data was collected using scholastic tests in science, mathematics and language. The collected data were analyzed using mean, standard deviation and t-tests. The results obtained from the study were analyzed and interpreted

below. The unit of analysis is the group and not the individual, so scores have been merged to provide a complete picture of IB PYP students in all schools participating in the study. The achievement of the students in the various subjects of study is also a measure of the extent to which the curriculum framework has made an impact on young minds. To assess the scholastic achievement of the students related to various skills and competencies, scholastic tests were made for mathematics, science and English.

The objective of administering the scholastic tests was not to find the achievement of the students in terms of their scores but to identify in which competencies the students excelled and in which they were lacking.

4.3.5 Analysis of Scholastic Tests for the Selected Schools: Analysis of Scholastic Test for Assessing Students' Competency in Mathematics

Table 4 shows the various competencies of mathematics which are appropriate for students of grade V. The table displays the percentage of the students who demonstrated mastery with respect to each item. The 20 item test was administered to 351 students at the selected schools. The average percent correct for the items was 62.29%, with performances on each item ranging from 29.75% correct to 79.75% correct.

Table 4

Item Analysis of Correct Responses in Mathematics

Item No.	Competency/Skill Tested	Frequency	Percentage
1	Finding mean	276	69
2	Finding profit/loss	319	79.75

3	Use of 24 hour clock	340	85
4	Calculating speed	328	82
5	Finding area	182	45.5
6	Identifying symmetry	352	88
7	Determining time	313	78.25
8	Classifying triangles	188	47
9	Finding simple interest	119	29.75
10	Finding perimeter	169	42.25
11	Addition & subtraction of fractions	166	41.5
12	Changing fractions into percentage	249	62.25
13	Modeling numbers beyond thousands	242	60.5
14	Division of decimals	324	81
15	Comparing and ordering fractions	281	70.25
16	Additions & subtraction of decimals in terms of money	237	59.25
17	Changing percentage into decimals	146	36.5
18	Reading numbers extending the base system of 10 up to thousands and millions	210	52.5
19	Calculating temperature	303	75.75
20	Addition & subtraction of integers	239	59.75

The above table lists mathematical competencies that served as the basis for each of the 20 items on the mathematics scholastic test. The number of students correctly responding to each item is represented as the frequency along with the respective percentage.

The items relating to determining time and finding profit/loss were areas of strength for the students, with over 75 percent of the students correctly solving these problems. Two of the 20 items, both relating to simple interest and converting percent into decimals, were challenging to more than 60 percent of the students. When the incorrect responses were analysed it was learned that the majority of students who answered these two items incorrectly actually made procedural errors relating to multiplication and not conceptual errors (Table 5).

Table 5

Analysis of Erroneous Responses on Scholastic Test of Mathematics

Item No.	Hard Spots	Incorrect Response		Correct Response		Description of the Errors	
		Response	%	Response	%	Conceptual	Procedural
9	Calculate the simple interest Mr. Manoj has to pay back to the bank if he takes a loan of Rs. 30,000 at a rate of 6% for 2 years?	Rs. 1800	19.18	Rs. 3600	30.43	Lacks understanding of the formula for calculating simple interest. Only calculated the simple interest of one year.	Major incorrect responses indicate that student multiplication of the numbers was performed incorrectly.
		Rs. 3650	12.30				
		Rs. 1600	9.21				
		No response	28.88				
1	Jagtap had a can with 4.5 lt. of juice. He decided to distribute 80% of the juice among his friends. How many litres of juice might he have	3.55 lt.	15.64	3.6 lt.	36.92	Lacks the conceptual understanding of interchanging percentage into decimals.	The incorrect responses indicate error in multiplication of 2-digit number and 1-digit number and division of numbers by
		2.67 lt.	20.51				
		3.89 lt.	10.51				

	distributed among his friends?	No response	16.87		multiples of ten.

4.3.6 Analysis of the Scholastic Test for Assessing Students' Competency in Science

Table 6 shows the various competencies in science which are appropriate for students of grade V based on the expertise of the research team. The table displays the frequency and percentage of the students who correctly answered each item. The 20 item test was administered to 385 students at the selected schools. Due to scheduling, additional students participated in the Science Competency Exam. The average percent correct for the items was 56.66%, with performances on each item ranging widely from 12.47% correct to 85.97% correct.

Table 6

Item Analysis of Correct Responses in Science

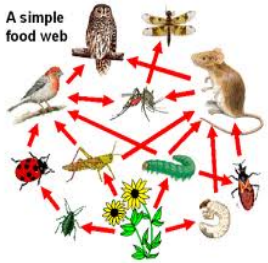
Item No.	Competency/Skill Tested	Frequency of Correct Responses	Percentage of Correct Responses
1	Identify connections and patterns	134	34.81
2	Development of observational skills	185	48.05
3	Identify connections and patterns	214	55.58
4	Make predictions	223	57.92
5	Test and refine ideas with increasing accuracy	224	58.18

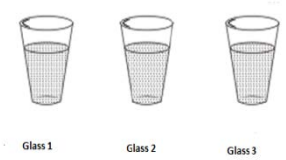
6	Explore the ways the object / phenomenon works	296	76.88
7	Identify parts of a system	331	85.97
8	Understanding the cause and effect relationship	254	65.97
9	Examine the change over time	320	83.12
10	Aware of different perspectives	241	62.6
11	Understanding the cause and effect relationship	151	39.22
12	Aware of the ways of organizing the world	196	50.91
13	Use of learning in science to plan positive and realistic actions(to improve their own life for welfare of environment)	48	12.47
14	Consider how views and customs may have been formulated	60	15.58
15	Communicating their ideas/provide explanations using their own scientific experiences and that of others	224	58.18
16	Understanding cause and effect relationship	269	69.87
17	Communicating their ideas/provide explanations using their own scientific experiences and that of others	181	47.01
18	Explore the way an object/phenomenon works	281	72.99
19	Development of observational skill	276	71.69
20	Recognize change affected by one or more variables	255	66.23

The above table lists the competencies for science which comprised the science scholastic test. Several concepts were represented by multiple items. The number of students correctly responding to each item is represented as the frequency along with the respective percentage. Out of 20 items on the science scholastic test, four items resulted in less than 40 percent of students responding correctly. These included: identifying connections and patterns, understanding cause and effect relationship, using learning in science to plan positive and realistic actions, and explain how views and customs were formulated in the society. It should be noted that two other items corresponding to 'cause and effect' were correctly answered by over 65 percent of the students.

Table 7

Analysis of Erroneous Responses on the Scholastic Test of Science

Item no.	Hard Spots	Incorrect response		Correct response		Description of the errors	
		Response	%	Response	%	Conceptual	Procedural
1	Which one of the following statements is  true if, there is no rat in the following food web?	Sunflower plants will grow very fast	10.64	Increase in number of caterpillars	34.81	Lack to establish connections & patterns. Majority of students established connection between owl and rat, but failed to see that if all rats die owls can still survive on birds but an increase in caterpillars will destroy the	Failure to understand that arrow direction indicates consumption direct could explain the incorrect answer choice. This is indicative of confusion on reading the diagram, not connections/patterns.
		Mosquitoes will die due to lack of food.	11.95				
		No food will be available for owls	41.30				
		Not responded	1.3				

						sunflower plants.	
11	Three glasses are kept with equal amount of water and equal amount of sugar added to each of them. After adding sugar: Glass 1 was cooled, Glass 2 was heated and Glass 3 was left undisturbed. Which glass will have the sweetest water?  	glass 1 glass 3 All the three glasses Not responded	25.46 24.16 11.17 0.99	glass 2	38.22	Lack to establish cause & effect relationship.	The major incorrect response 'glass 3' indicates that students might be unaware that without stirring/heating the sugar does not easily dissolve in water. Other incorrect response i.e. 'glass 1' indicates that the students might have compared the glass which was cooled to some cold drink that they get from the refrigerator which is not stirred/heated but still it is sweet. The even distribution of wrong answer selections could suggest that the question wording was

							difficult.
13	Akshay read that, about 0.35% of forests are being destroyed every year due to deforestation. The increase in deforestation leads to increase in carbon dioxide, which leads to global warming. He plans to reduce the effect of deforestation. Which of the following plan can be followed by him?	Make a nursery of flowering plants.	12.72	Plant 5 trees on his birthday and take care of them	12.20	Lacks in using science learning to make positive realistic plans.	Majority of the students might have responded 'all of the above' thinking that throwing the fruit seeds in moist soil and making a nursery will grow plants which may reduce the CO_2 but failed to understand that the main focus of the question was related to deforestation for which trees are to be planted and should be taken care of.
		Throw the fruit seeds in moist soil.	10.91				
		All of the above	63.38				
		Not responded	0.79				

14	People in India throw away all prepared food in their house and make new food after a solar /lunar eclipse. What is the belief of the people behind following this custom?	During eclipse some powerful sunrays reach the earth. During eclipse some acid falls on food. Food starts rotting on its own. Not responded	44.42 10.91 28.05 1.04	A demon makes the food stale.	15.58	Lacks to understand why customs were formulated.	The major incorrect responses show that the students have tried to give scientific reasons for the throwing away of food but were unaware about the blind faith due to which the custom is followed in India. Other incorrect responses indicate that the students thought in a general way that the cooked food starts to rot, neither tried to relate it scientifically to the eclipse nor with the blind faith prevalent in the society.

4.3.6 Analysis of the Scholastic Test for Assessing Students' Competency in English

Table 8 shows the various competencies of English which are appropriate for students of grade V. The table displays the frequency and percentage of the students who answered each item correctly. The 31 item test was administered to 382 students at the selected schools. Due to scheduling, additional students also participated in the English Competency Exam. The average percent correct for the items was 70.94%, with performances on each item ranging from 24.35% correct to 94.76% correct.

Table 8

Item Analysis of Correct Responses in English

Item No.	Competency/Skill Tested	Frequency	Percentage
Q1.	**Reading Skills**		
1	Use the general reading strategies to comprehend the text	239	62.57
2	Compare and contrast	325	85.08
3	Use the general reading strategies to comprehend the text	290	75.92
4	Use the general reading strategies to comprehend the text	209	54.71
5	Use of antonyms	252	65.97
Q2.	**Writing Skills (Verbs, Nouns, Adjectives, Adverbs,**		

	Transition Verbs, Pronouns, etc.)		
1	Use interrogative sentences	93	24.35
2	Practice using conjunctions	242	63.35
3	Simple transitions	280	73.3
4	Master the use of correct subject verb agreement	241	63.09
5	Capitalization	286	74.87
6	Master the use of verbs	118	30.89
7	Practice using adverbs	296	77.49
8	Practice using adjectives	341	89.27
9	Singular vs. Plural	207	54.19
10	End punctuation and Internal punctuations for commas	283	74.08
Q3.	**Writing skills (Tenses, Preposition, Correct Spellings and Pronouns)**		
1	Practice using subjective pronouns correctly(singular third person)	362	94.76
2	Subject verb agreement and practice using verb tense (past tense)	344	90.05
3	Memorize prepositions	349	91.36
4	Use of correct spelling	308	80.63

5	Practice using verb tense (present continuous)	335	87.7
6	Master the use of verbs (simple present tense)	358	93.72
7	Present participle	322	84.29
8	Use of high frequency words	333	87.17
9	Practice using verb tense (simple present tense)	351	91.88
10	Practice using subjective pronouns correctly (plural)	336	87.96
Q4.	**Writing Skills (Writing a Formal Letter)**		
1	Self address	180	47.12
2	Date	199	52.09
3	Address of the manager	183	47.91
4	Salutation or greeting	315	82.46
5	Content of a formal letter	202	52.88
6	Complimentary close and signature	222	58.12

The above table shows competencies of English for which the 31 items for the English scholastic test were based. Out of the total items on the English scholastic test, two items resulted in correct responses from less than 40 percent of students: use of appropriate interrogative pronouns and the use of verbs.

Table 9

Analysis of Erroneous Responses on Scholastic Test of English

Item No.	Hard Spots	Incorrect Response		Correct Response		Description of the Errors	
		Response	%	Response	%	Conceptual	Procedural
Q21	Rewrite the sentence using the correct interrogative pronoun instead of the underlined words: The teacher read <u>the letter.</u>	The teacher read what?	23.56	What did the teacher read?	22.76	Use of interrogative pronoun in the sentence.	Majority of the incorrect responses indicate that the students just replaced the pronoun instead of the underlined words rather than reframing the sentence. Students are unaware about the positioning of the pronoun, verb and the noun in the sentence.
		Which letter did the teacher read?	9.2				
		Teacher read whose letter	6.78				
		Not responded	11.56				

6	Find the verbs in the following sentence: In the future we will not have as much food as we have now.	will not have as much will not have, have now Not responded	36.38 10.73 19.9 3.40	will not have, have	29.84	Lacks the understanding of the identifying the verbs in a sentence.	Major incorrect responses indicate that students might have a misconception that one sentence has only one verb. Other incorrect responses indicate students are not aware that 'now' and 'as much' is not a verb.

4.4 Characteristics of PYP Teachers

The characteristics of PYP teachers were analyzed through the data collected on the following instruments: Profile of PYP Teachers, Job Satisfaction Scale, and Self-Efficacy Scale.

4.4.1 Profile of PYP Teachers

The profile of PYP teachers is described using age, marital status, educational qualifications, professional qualifications, teaching experience and nature of job. In general, the population of teachers was fairly evenly distributed with regard to age, with 25.3% under age 30, 32.9% between ages 30 and 40, 31.6% older than 40, and 10.1% who chose not to respond. Over 68 percent (68.4%) of participants were married, 19% were unmarried, and 12.7% did not respond about their marital status.

With regard to professional qualification, 57% had an undergraduate degree in education, 7.6% had a Master's degree in Education, 22.8% responded 'other', and 11.7% abstained from responding. Teaching experience was equally distributed as well, with 22.8% having taught for less than five years, 36.7% teaching for six to 10 years, and 34.2% teaching for more than 10 years. Age and teaching experience were highly correlated, with a Pearson Correlation coefficient of .536. Finally, 82.3% of teachers were permanent employees, while 2.5% were either ad hoc or temporary, and 12.7% did not respond.

4.4.2 Analysis of Classroom Transaction Process

The classroom observation schedule consisted of 59 items organized into three major parts: pre-active, inter-active and post-active. A total of 32 lessons in the classrooms of selected IB PYP schools were observed using the protocol developed by the project director, Dr. Pushpanadham. The objective was to document and describe common practices observed. Because only 32 classrooms were visited, the data is not generalizable across all classrooms. Additionally, it was not possible to observe

classrooms over multiple weeks or different points in the year, so the data does not account for a complete description of each classroom. The category labeled “not observed” should be interpreted literally, it should not be assigned a negative or positive value. Due to the limit of three days with each school, it is not possible to observe everything. The summary in the form of frequency and percentage is presented in Tables 10 to 14.

Table 10

Distribution of the Classroom Transaction Process in Terms of the Preparation of Lesson

Item No.	Preparation of Lesson	Effective	Good	Satisfactory	Needs Improvement	Not Observed
1	Teacher’s awareness of curriculum framework & uniqueness of PYP	11 (34.37)	17 (53.12)	1 (3.12)	0	3 (9.37)
2	Preparation relevant to the level of students	10 (31.25)	15 (46.87)	2 (6.25)	1 (3.12)	4 (12.5)
3	Preparation according to the size of class	11 (34.37)	14 (43.75)	1 (3.12)	1 (3.12)	5 (15.62)
4	Significance & relevance of content to the prior experience & understanding of students	10 (31.25)	14 (43.75)	2 (6.25)	1 (3.12)	5 (15.62)
5	Thematic analysis	6	14	5	1	6

		(18.75)	(43.75)	(15.62)	(3.12)	(18.75)
6	Clear and specific objectives of lesson	6 (18.75)	18 (56.25)	3 (9.37)	1 (3.12)	4 (12.5)
7	Selection of teaching methods and teaching activities according to the age level of learners	9 (28.12)	12 (37.5)	7 (21.87)	1 (3.12)	3 (9.37)
8	Consideration of the psychological principles	6 (18.75)	18 (56.25)	5 (15.62)	0	3 (9.37)
9	Planning of classroom activities	7 (21.87)	15 (46.87)	3 (9.37)	1 (3.12)	6 (18.75)
10	Development of learning resources	6 (18.75)	14 (43.75)	2 (6.25)	0	10 (31.25)
11	Consideration of previous knowledge of Students	7 (21.87)	13 (4.62)	5 (15.62)	0	7 (21.87)
12	Consideration of available time as per the objectives of the lesson	9 (28.12)	9 (28.12)	6 (18.75)	0	8 (25)

(Figure within parentheses indicates percentage.)

Table 10 summarizes lesson preparation observations. The observation suggests that the IB PYP teachers were well prepared for the lessons before teaching the lesson. More than 60 percent of the lessons observed were either “effective” or “good” in all the components of pre-active phase. Some areas that were observed as strengths include: 1) teacher’s awareness of curriculum framework and uniqueness of PYP 2) selection of

teaching methods and teaching activities according to the age level of learners and 3) consideration of the psychological principles. Whereas, some areas not seen as frequently were: 1) preparation of lesson as per the size of class 2) thematic analysis and 3) the planning of classroom.

Table 11

Distribution of the Classroom Transaction Process in Terms of the Teaching-Learning Process in the Classroom

Item No.	Teaching-Learning Process	Excellent	Good	Satisfactory	Needs Improvement	Not Observed
1	Use of teaching techniques according to the objectives	6 (18.75)	18 (56.25)	3 (9.37)	0	5 (15.62)
2	Use of meaningful communication	8 (25)	15 (46.87)	6 (18.75)	0	3 (9.37)
3	Active involvement of learners	7 (21.87)	17 (53.12)	6 (18.75)	0	2 (6.25)
4	Use of learning resources	7 (21.87)	14 (43.75)	6 (18.75)	1 (3.12)	4 (12.5)
5	Learner initiated activities	8 (25)	12 (37.5)	8 (25)	0	4 (12.5)
6	Selection & use of learning resources (local & global)	9 (28.12)	17 (53.12)	4 (12.5)	1 (3.12)	6 (18.75)
7	Learner centered teaching method	9 (28.12)	12 (37.5)	7 (21.87)	0	4 (12.5)

8	Encouragement & appreciation of learners	8 (25)	17 (53.12)	5 (15.62)	0	2 (6.25)
9	Development of conceptual understanding	5 (15.62)	14 (43.75)	9 (28.12)	1 (3.12)	3 (9.37)
10	Demonstration of positive attitudes	6 (18.75)	17 (53.12)	2 (6.25)	0	7 (21.87)
11	Demonstration of responsible behaviour through own actions	3 (9.37)	19 (59.37)	4 (12.5)	2 (6.25)	4 (12.5)
12	Presentation of creative ideas relevant to the subject areas	8 (25)	9 (28.12)	5 (15.62)	1 (3.12)	9 (28.12)
13	Teacher continually monitors the needs & capabilities of each student during teaching-learning process	9 (28.12)	11 (34.37)	7 (21.87)	1 (3.12)	4 (12.5)
14	Teaching based on students' needs, interest & capabilities	5 (15.62)	15 (46.87)	4 (12.5)	2 (6.25)	6 (18.75)
15	Varying pace of teaching as per individual differences	4 (12.5)	13 (40.62)	4 (12.5)	1 (3.12)	10 (31.25)
16	Balance between intellectual, social &	2 (6.25)	13 (40.62)	9 (28.12)	1 (3.12)	7 (21.87)

	personal learning and interlinking them					
17	Positive & negative feedback and its impact	2 (6.25)	17 (53.12)	4 (12.5)	0	9 (28.12)
18	Content with global significance/ suited to all students with different cultures	4 (12.5)	11 (34.37)	9 (28.12)	0	8 (25)
19	Correlation of knowledge, concepts and skills from the traditional subject areas	5 (15.62)	14 (43.75)	4 (12.5)	3 (9.37)	6 (18.75)
20	Utilization of transdisciplinary model	3 (9.37)	10 (31.25)	6 (18.75)	2 (6.25)	11 (34.37)
21	Transdisciplinary model in teaching	4 (12.5)	4 (12.5)	7 (21.87)	4 (12.5)	13 (40.62)

(Figure within parentheses indicates percentage.)

This table (Table11) summarizes the observations of the teaching-learning process enacted in the classroom. The observation suggests that the teaching-learning process in IB PYP schools were quite good as more than 60 percent of the lessons observed were either “effective” or “good” in all the activities of the inter-active phase of classroom transaction. The areas not observed as frequently were: 1) selection and use of appropriate learning resources 2) continuous monitoring about the needs, interest and

capabilities of the students and teaching accordingly and 3) utilization and revision of transdisciplinary model of teaching-learning.

Table 12

Distribution of the Classroom Transaction Process in Terms of the Use of Teaching Skills in the Classroom

Item No.	Use of Skills	Excellent	Good	Satisfactory	Needs Improvement	Not Observed
1	Introduction (I)	6 (18.75)	16 (50)	1 (3.12)	2 (6.25)	7 (21.87)
2	Questioning (Q)	6 (18.75)	13 (40.62)	8 (25)	2 (6.25)	3 (9.37)
3	Reinforcing (R)	7 (21.87)	21 (65.62)	2 (6.25)	0	3 (9.37)
4	Explanation (E)	6 (18.75)	11 (34.37)	8 (25)	1 (3.12)	6 (18.75)
5	Illustration with Examples (IE)	6 (18.75)	10 (31.25)	6 (18.75)	1 (3.12)	9 (28.12)
6	Stimulus Variation (SV)	5 (15.62)	12 (37.5)	7 (21.87)	0	8 (25)
7	Silence & Non-Verbal Cues (SNVC)	3 (9.37)	15 (46.87)	5 (15.62)	2 (6.25)	7 (21.87)

8	Gestures (G)	3 (9.37)	19 (59.37)	7 (21.87)	1 (3.12)	2 (6.25)
9	Probing (P)	6 (18.75)	10 (31.25)	6 (18.75)	4 (12.5)	6 (18.75)
10	Techno Pedagogy (TP)	6 (18.75)	6 (18.75)	5 (15.62)	2 (6.25)	13 (40.62)
11	Use of Audio-Visual Aids (AV)	4 (12.5)	6 (18.75)	4 (12.5)	1 (3.12)	17 (53.12)
12	Use of Blackboard (UBB)	3 (9.75)	6 (18.75)	7 (21.87)	3 (9.37)	13 (40.62)
13	Achieving Closure (AC)	4 (12.5)	1 (3.12)	5 (15.62)	4 (12.5)	18 (56.25)

(Figure within parentheses indicates percentage.)

Regarding the use of teaching skills, Table 12 summarizes observations. The data suggests that the majority of the teachers were using teaching skills “effective” or “good” as the majority of the teaching skills used by the IB PYP teachers were observed as either “effective” or “good”.

Table 13

Distribution of the Classroom Transaction Process in Terms of the Assessment/Evaluation of the Lesson

Item	Assessment/Evaluation	Excellent	Good	Satisfactory	Needs	Not

No.					Improvement	Observed
1	Evaluation techniques used	5 (15.62)	12 (37.5)	1 (3.12)	0	14 (43.75)
2	Learning outcomes	3 (9.37)	12 (37.5)	3 (9.37)	0	14 (43.75)
3	Activities provided for evaluation	5 (15.62)	10 (31.25)	2 (6.25)	0	15 (46.87)
4	Instruction provided during evaluation	3 (9.37)	11 (34.37)	6 (18.75)	0	13 (40.62)
5	Quality of homework assigned	4 (12.5)	10 (31.25)	1 (3.12)	1 (3.12)	16 (50)
6	Achievement of lesson objectives	2 (6.25)	8 (25)	2 (6.25)	2 (6.25)	18 (56.25)

(Figure within parentheses indicates percentage.)

Regarding the assessment/evaluation of the lesson, Table 13 summarizes observations and the data suggests that the assessment/evaluation process followed by the IB PYP teachers were either “effective” or “good” from the use of evaluation technique to achievement of lesson objectives.

Table 14

Distribution of the Classroom Transaction Process in Terms of the Areas that Need Improvement

Item No.	Areas in Need of Improvement	F	%
1	Maintenance of discipline	4	12.5
2	Correlation between different units and subjects	3	9.37
3	Time management	2	6.25
4	Management of internal as well as external disturbance	7	21.87
5	Teaching based on level, needs, interest and capabilities of students	3	9.37
6	Thematic analysis	3	9.37
7	Accurate and timely instruction to students	3	9.37
8	Utilization and revision of trans-disciplinary teaching model	6	18.75
9	Planning of evaluation	3	9.37

Table 14 summarizes the identified areas needing improvement based on the observations. It was found that areas needed for improvement were use of the transdisciplinary teaching model and classroom management of internal and external disturbances.

4.4.3 Job Satisfaction of IB PYP Teachers

The Job Satisfaction Rating Scale was completed by the IB PYP school teachers. The scale consists of 20 items pertaining to the service and other general conditions in IB PYP schools; one item was removed due to ambiguous wording. The responses of the

PYP teachers are described using frequency and percentage. The following table 15 summarizes the results of job satisfaction scale completed by 79 PYP teachers.

Table 15

Analysis of the Result of IB PYP Teachers' Job Satisfaction

Item No.	Area	HS	S	N	D	HD	NR
1	Professional programmes conducted by the school	35 (44.3)	33 (41.8)	7 (8.9)	1 (1.3)	00	1 (1.3)
2	Opportunities for in-service training	32 (40.5)	35 (44.3)	11 (13.9)	00	00	1 (1.3)
3	Clarity in job description and profile	37 (46.8)	36 (45.6)	3 (3.8)	2 (2.5)	1 (1.3)	1 (1.3)
4	Job security	42 (53.2)	25 (31.6)	6 (7.6)	4 (5.1)	2 (2.5)	1 (1.3)
5	Provision for career advancement	31 (39.2)	31 (39.2)	12 (15.2)	3 (3.8)	1 (1.3)	1 (1.3)
6	Salary and other financial gains	10 (12.7)	37 (46.8)	20 (25.3)	8 (10.1)	2 (2.5)	1 (1.3)
7	Physical facilities in the school	36 (45.6)	27 (34.2)	9 (11.4)	3 (3.8)	00	1 (1.3)
8	Safety measures in the school	44 (55.7)	28 (35.4)	5 (6.3)	00	1 (1.3)	1 (1.3)
9	Communication and information flow	36 (45.6)	32 (40.5)	8 (10.1)	1 (1.3)	00	1 (1.3)

10	Colleagueship	44 (55.7)	28 (35.4)	5 (6.3)	1 (1.3)	00	1 (1.3)
11	Leadership of the principal	51 (64.6)	21 (26.6)	2 (2.5)	2 (2.5)	2 (2.5)	1 (1.3)
12	Parental involvement and contribution	26 (32.9)	35 (44.3)	13 (16.5)	1 (1.3)	3 (3.8)	1 (1.3)
13	Recognition and appreciation of creative work	29 (36.7)	38 (48.1)	7 (8.9)	4 (5.1)	00	1 (1.3)
14	Performance appraisal procedure	15 (19)	40 (50.6)	14 (17.7)	7 (8.9)	1 (1.3)	1 (1.3)
15	Students' discipline	11 (13.9)	41 (51.9)	23 (29.1)	2 (2.5)	00	1 (1.3)
16	Encouragement for innovations in teaching	50 (63.3)	21 (26.6).	4 (5.1)	2 (2.5)	00	1 (1.3)
17	Collaboration with neighbouring schools	14 (17.7)	28 (35.4)	31 (39.2)	4 (5.1)	1 (1.3)	1 (1.3)
18	International linkages and partnership	19 (24.1)	29 (36.7)	19 (24.1)	4 (5.1)	1 (1.3)	1 (1.3)
19	Autonomy for the teachers	28 (35.4)	29 (36.7)	14 (17.7)	00	00	1 (1.3)

(HS=Highly Satisfied, S=Satisfied, N=Neutral, HD=Highly Dissatisfied, D=Dissatisfied)

(Figure in the parentheses indicates percentage.)

- The majority of the teachers, 68 (86.07 percent), were satisfied with the professional programmes conducted by the IB PYP schools.

- Eleven (13.92 percent) teachers remained neutral about the opportunities for in-service training in IB PYP whereas, 67 (84.81 percent) were satisfied with the opportunities for in-service training in the IB PYP.

- Four (5.06 percent) teachers did not respond about the physical facilities in their IB PYP schools whereas, nine (11.39 percent) remained neutral. Sixty-three (79.74 percent) teachers were satisfied with the physical facilities in their IB PYP schools whereas, only three of them were dissatisfied.
- Eight teachers (10.12 percent) remained neutral about the communication and information flow in IB PYP schools. Sixty-eight (86.07 percent) teachers were satisfied with the communication and information flow in IB PYP schools whereas, only one teacher (1.3 percent) was dissatisfied.

- Five teachers (6.32 percent) remained neutral about the colleagueship in the IB PYP schools. Seventy-two (91.13 percent) teachers were satisfied with the colleagueship whereas, only one of the teachers (1.3 percent) was dissatisfied.

- Two teachers remained neutral about the leadership of IB PYP school principal. Most teachers, 72 (91.13 percent), were satisfied with the leadership of IB PYP school principal whereas, four (5.06 percent) were dissatisfied.

- Thirteen (16.45 percent) teachers remained neutral about parental involvement and contribution in IB PYP. Seventy one teachers (89.87 percent), were satisfied

with the parental involvement and contribution in IB PYP whereas, four (5.06 percent) of them were dissatisfied.

- Two teachers did not respond about the encouragement for innovations in teaching in IB PYP schools whereas, four (5.06 percent) of them were remained neutral. Seventy-one teachers (89.87 percent) were satisfied with the encouragement for innovations in teaching whereas, only two of them were dissatisfied.
- Thirty one (39.24 percent) teachers remained neutral about the collaboration with neighbouring schools. Forty-two (53.16 percent) teachers were satisfied with the collaboration with the neighbouring schools, whereas, five (6.32 percent) were dissatisfied.

4.4.4 IB PYP Teachers' Self Efficacy

Bandura's (1997) Teacher Self Efficacy Scale was adapted and used for IB PYP school teachers to gain an understanding of the efficacy of the teachers related to school activities. This scale consisted of 30 items organized into seven sub-scales. The instrument was administered to79 IB PYP teachers. Composite scores were used to summarize the results. This method enabled multiple items to be combined to provide an overall measure of broader ideas. For this instrument, the individual items for each self-efficacy factor were combined to provide a composite score for each factor. The Teacher Self Efficacy (TSE) Survey was broken down into seven factors: Efficacy to Influence Decision Making (two items composite), Efficacy to Influence School Resources (one item composite), Instructional Self Efficacy (nine items composite), Disciplinary Self

Efficacy (three items composite), Efficacy to Enlist Parental Involvement (three items composite), Efficacy to Enlist Community Involvement (four items composite), Efficacy to Create a Positive School Climate (eight items composite). In total, there were 30 items in the survey, and each composite was mutually exclusive. There were 79 total responses to the survey, although each composite is different as participants who chose not to respond to certain items had to be removed from the composite in order to avoid a negative bias in the response patterns. This questionnaire was designed to gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. All items were scored on a scale of one through nine (with nine being the most positive response and one being the least positive response), while zeros were coded for no response.

The first factor, Efficacy to Influence Decision Making, was a composite of two items. Almost all participants responded to both items, yielding a sample size of 78. The maximum possible mean for this composite was 18, while the responses ranged from 3 to 17. The recorded mean for this factor was 11.14 with a standard deviation of 3.302. The Cronbach's Alpha for this construct was .725.

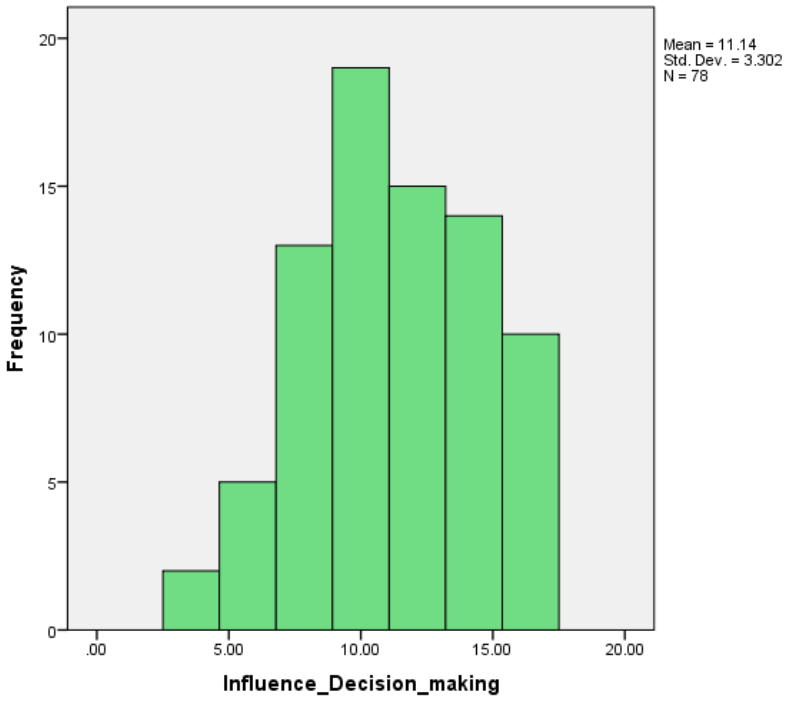


Figure 4.Histogram of the range of responses for the composite factor Efficacy to Influence Decision Making. The shape of this distribution is generally normal.

The second factor, Efficacy to Influence School Resources, was not really a composite since this factor represents only one item in the survey. Because of this a Cronbach's Alpha statistic cannot be computed. The maximum possible mean was 9.00. The recorded mean for this variable was very high at 7.24, with a small standard deviation of 1.565. The responses for this variable have a negative skew, indicating that there were more positive responses. The response rate was also very high for this factor, with 76 out of 79 participants responding. This is to be expected as there was only one item that comprised this factor.

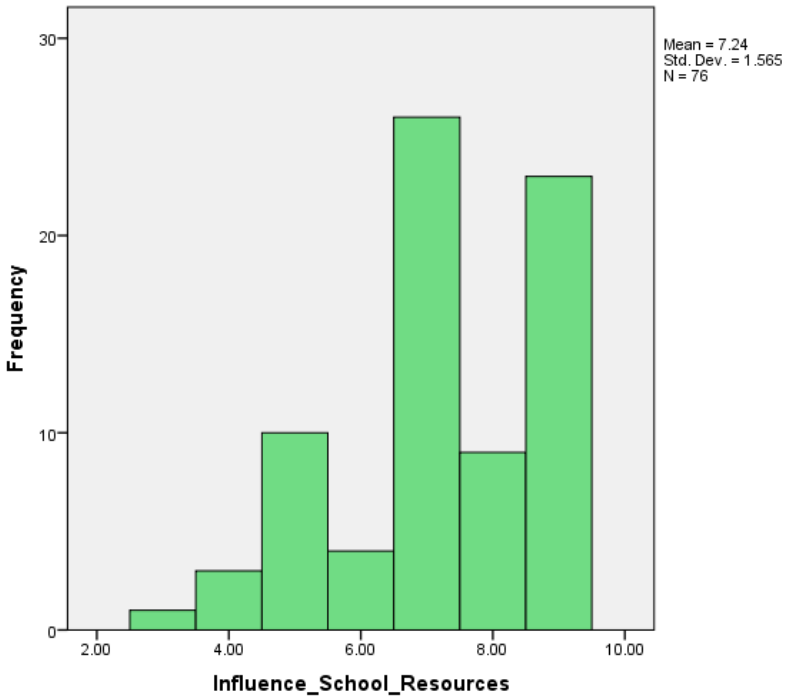


Figure 5. Histogram of the range of responses for the composite factor Efficacy to School Resources. The shape of this distribution is odd, with a somewhat negative skew.

The third factor, Instructional Self Efficacy, represented the largest composite of survey items: nine. This made the maximum possible mean 81, with composite responses ranging from 35 to 81. The sample size was slightly smaller here with 68. The overall mean for this construct was 61.74, with a standard deviation of 8.48. Responses were fairly normally distributed. Cronbach's Alpha was very high, at .846, indicating that these items should all address the same underlying construct.

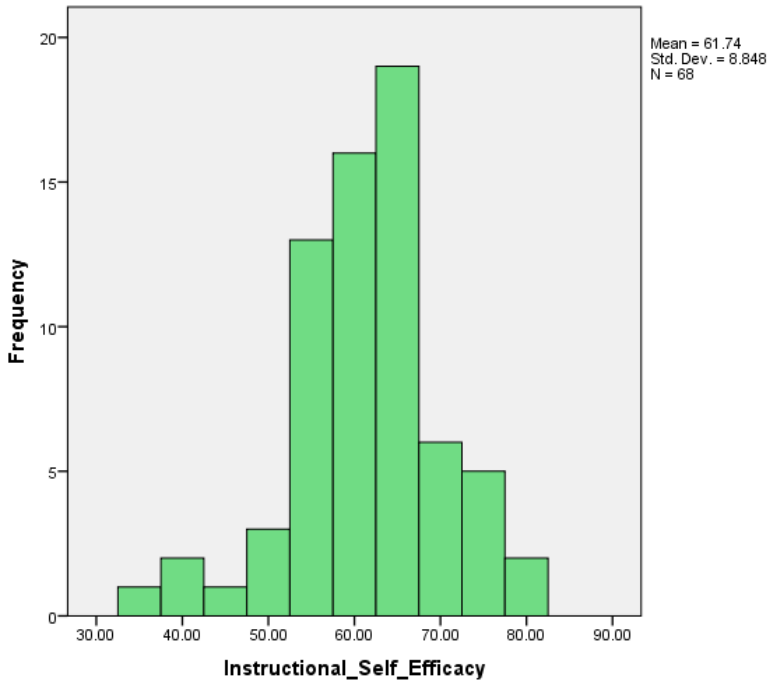


Figure 6. Histogram of the range of responses for the composite factor Instructional Self Efficacy. The shape of this distribution is generally normal.

The fourth factor, Disciplinary Self Efficacy, was a composite of three items. The response rate here was perfect, with all survey respondents responding to all three items in the composite. The shape of this distribution is odd, with narrow allocation of responses ranging from 17 to 27, and a maximum possible mean of 27. The mean is high, at 22.43, with a standard deviation of 2.781. Cronbach's Alpha for this construct is also high, at .781.

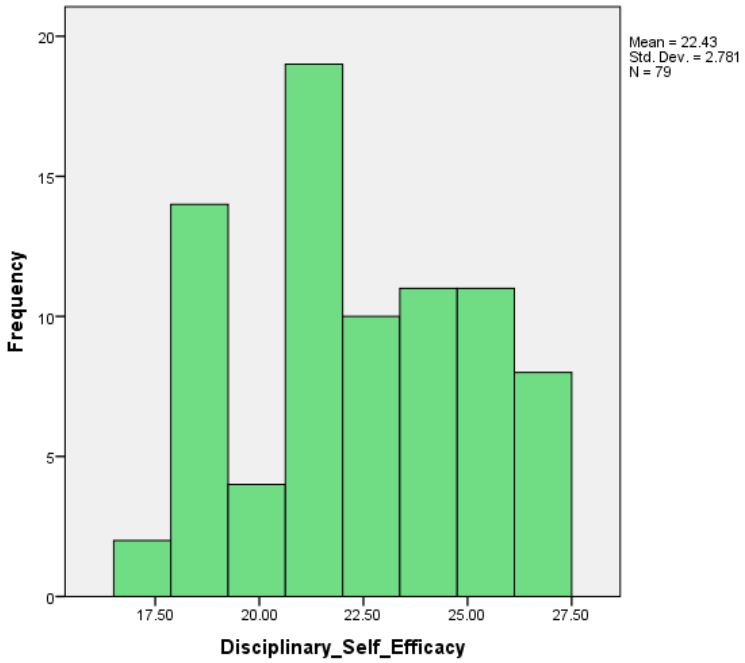


Figure 7. Histogram of the range of responses for the composite factor Disciplinary Self Efficacy. The shape of this distribution is somewhat odd and uniform and narrow, with a slight positive skew.

The fifth factor, Efficacy to Enlist Parental Involvement, also had a large number of responses with a sample size of 78. This factor was comprised of three items as well, with a wider range of responses varying from 12 to 27, with a maximum possible score of 27. The mean for this construct was 22.23 and the standard deviation was 3.211. The distribution for this factor was fairly normal with a slight negative skew. Generally, teachers appeared to be comfortable enlisting parental involvement according to their responses to this construct. The Cronbach's Alpha statistic was high again at .797.

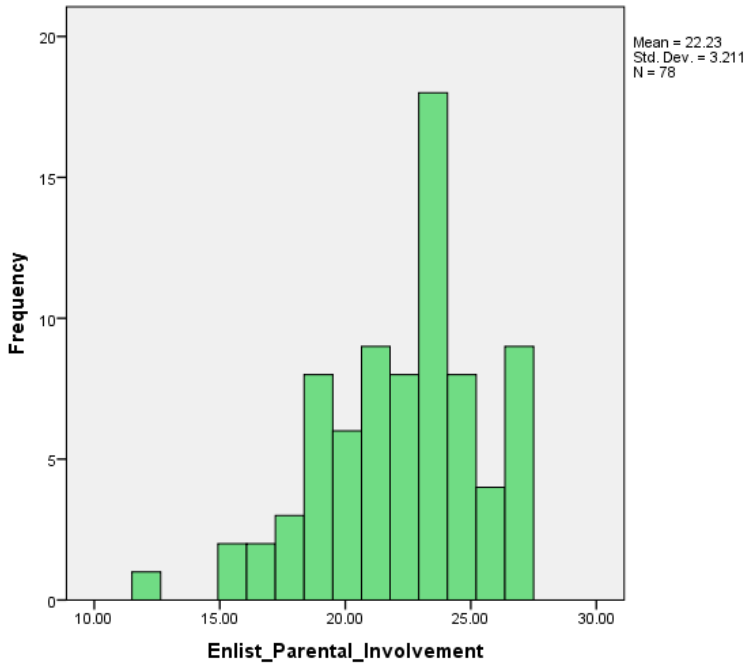


Figure 8. Histogram of the range of responses for the composite factor Efficacy to Enlist Parental Involvement. The shape of this distribution is generally normal with a negative skew.

The sixth factor, Efficacy to Enlist Community Involvement, was comprised of four survey items, with a maximum possible response of 36. Responses ranged from nine to 28, with a response rate of only 49 out of 79. This item had the least number of responses, and the one of the lowest means (relatively speaking). This indicates that either the survey participants felt that the questions were inappropriate or that they did not feel as comfortable involving the community in their teaching. The mean for this factor was 18.37 with a standard deviation of 4.773. Cronbach's Alpha was lower here at .676, indicating that the items may not have addressed the same underlying construct, or that one item may be different from the others.

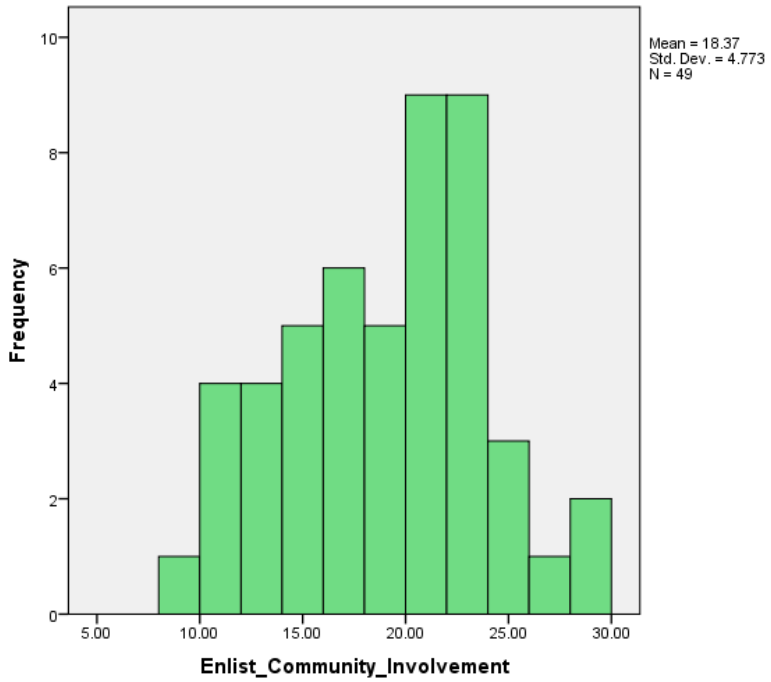


Figure 9. Histogram of the range of responses for the composite factor Efficacy to Enlist Community Involvement. The shape of this distribution is somewhat normal, with a wide range of responses.

The seventh and final factor was Efficacy to Create a Positive School Environment. This construct was the second largest composite, represented by eight survey items, for a maximum possible score of 72. The mean for this item was 59.15 while the standard deviation was 9.174, indicating that this factor had the widest variation of responses. The distribution of responses ranged from 27 to 72, and the fairly normally distributed graph again had a slightly negative skew. The sample size was 67, which is very good for the number of items in the composite. Finally, Cronbach's Alpha was extremely high at .897, indicating that survey participants were reliable in their responses and that these items most likely represent the same underlying construct.

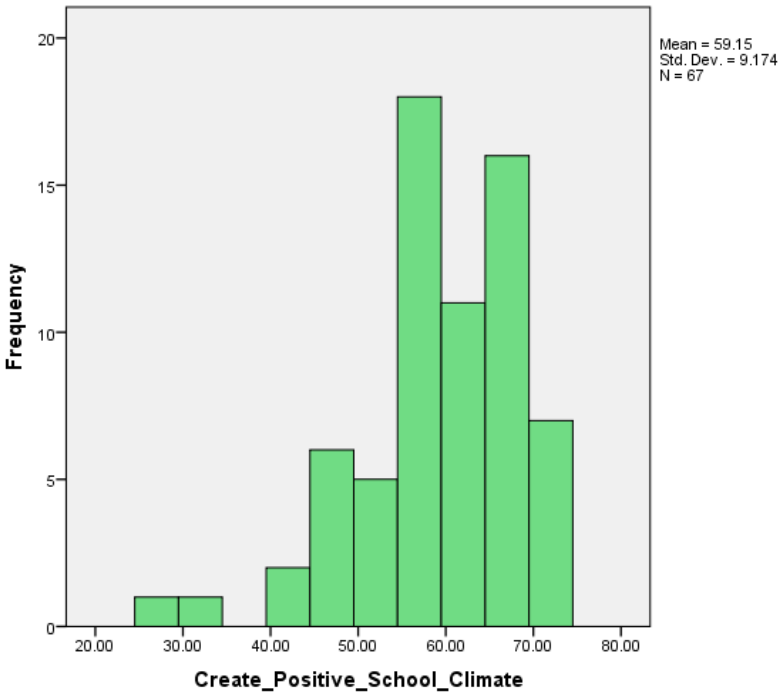


Figure 10. Histogram of the range of responses for the composite factor Efficacy to Create a Positive School Environment. This distribution has a negative skew.

Table 16 summarizes the statistical information for the factors in the TSE survey. The Standardized Mean column enables comparisons among the factors to be made because it represents the average response to each item in each factor. Teachers have the highest self-efficacy related to Disciplinary Self Efficacy, Enlisting Parental Involvement Self Efficacy, and Creating a Positive School Environment Self Efficacy.

Table 16

Statistical Information for Factors in the TSE Survey

Factor	Mean	Standard-ized Mean	SD	Sample Size (n)	Cronbach's Alpha	Number of Items

Efficacy to Influence Decision Making	11.14	5.57	3.302	78	.725	2
Efficacy to Influence School Resources	7.24	7.24	1.565	76	--	1
Instructional Self Efficacy	61.74	6.86	8.848	68	.846	9
Disciplinary Self Efficacy	22.43	7.48	2.781	79	.781	3
Efficacy to Enlist Parental Involvement	22.23	7.41	3.211	78	.797	3
Efficacy to Enlist Community Involvement	18.37	4.59	4.773	49	.676	4
Efficacy to Create a Positive School Environment	59.15	7.39	9.174	67	.897	8

4.4.5 Teacher Development

The Teacher Development Perception Scale developed by Project Director, Dr. Pushpanadham, after consultation with experts consisted of 22 items distributed in three sections and related to perceptions regarding the induction programme, perceptions regarding in-service training and perceptions regarding assessment and feedback. Apart from the scale, five open-ended questions regarding the teacher development were also asked. A total of 16 school heads responded to the scale. The frequency and percentage of the responses of the school heads are presented below.

The first segment of items in the survey focused on teacher selection as perceived by the PYP School Heads. The results suggest that school heads use a variety of qualifications to select teachers. Six (37.5 percent) school heads selected teachers based on their content competencies, while four (25 percent) school heads did not select teachers based on their content competencies. Twelve (75 percent), selected teachers based on pedagogical competencies. Nine (56.25 percent) PYP school heads selected teachers based on their academic qualifications and professional degrees whereas, two (12.5 percent) school heads did not select teachers based on their academic qualifications and professional degrees. Additionally, 12 (75 percent) PYP school heads selected teachers based on their attitudes towards teaching-learning.

When asked about their opinion with regard to the induction programme, the majority of school heads (75 percent) indicated the induction programmes were useful for enabling teachers to understand the philosophy of the IB and vision of the school, while 62 percent responded that the people they worked with during induction were resourceful. However, just 50 percent of school heads agreed with the statement "induction programmes by IB are useful to the teachers."

Generally, when asked about their perceptions toward the in service programme, the responses suggest that school heads value this activity. Eleven (68.75 percent) PYP school heads agreed with the statement that IB PYP provides in-service training programmes relevant to modern teaching-learning processes. Ten PYP school heads (62.5 percent) agreed the IB provides need- based in-service programmes to teachers.

Twelve PYP school heads (75 percent) agreed that IB PYP in-service programmes are highly effective.

The responses pertaining to assessment and feedback of professional development from a PYP School Head perspective are generally positive, with over 60 percent of school heads agreeing that 1) the IB PYP regularly assesses induction programmes provided to the teachers, 2) the IB PYP provides opportunities to teachers for providing feedback concerning induction and in-service programmes and 3) the IB PYP modifies induction programmes as per feedback provided by the teachers. An area to explore further would be modifications to in-service based on feedback; seven PYP school heads (43.75 percent) agreed that the IB PYP modifies its in-service training programmes as per the feedback provided by the teachers.

In addition to the perception scale, five open ended responses were collected from the PYP School Heads concerning teacher development. The responses from open-ended questions focused on criteria for selecting PYP teachers, desired qualifications for being PYP teachers, details regarding induction and in-service training programmes provided by the IB PYP, and any other information they wish to mention. The collected data were analyzed through the frequency and percentage which are presented below:

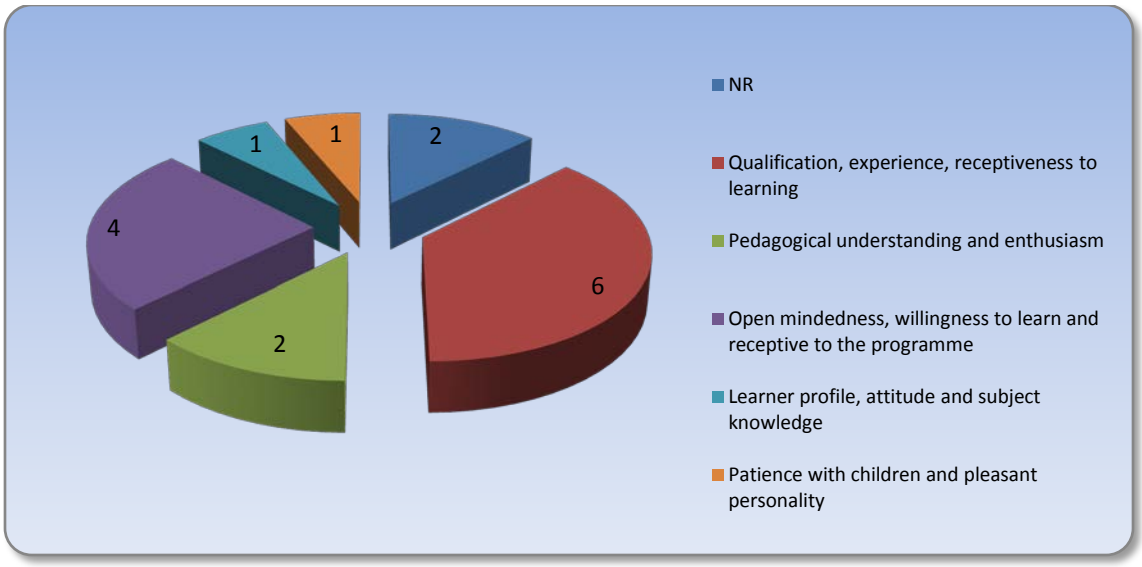


Figure 11: Distribution of PYP school heads in terms of the criteria for selecting IB PYP teachers

Figure 11 suggests that six (37.5 percent) PYP school heads selected PYP teachers based on their qualifications, experience and receptiveness to learning whereas, four (25 percent) school heads selected teachers based on their open mindedness, willingness to learn and receptiveness to the programme. The other school heads selected PYP teachers based on pedagogical understanding and enthusiasm (two school heads), the IB Learner Profile, attitude and subject knowledge (one school head) and patience with children and pleasant personality (one school head).

When the IB PYP school heads were asked to comment on other aspects of teacher development, nine (56.25 percent) school heads did not respond whereas, five (31.25 percent) mentioned teachers are sharing good practices through the school newsletters and networks for their development. The other information provided by one school head

included the use and impact of home visits by teachers, a unique concept appreciated by the parents of students. Additionally, one school head referenced an increase in the moral value of teachers through the IB PYP workshops.

4.5 Parents' Involvement in the PYP

Parent's Involvement in the PYP was assessed through data collected using two different Perception Scales, developed by the Project Director, Dr. Pushpanadham, after consultation with the experts. The results from these tools are seen below.

4.5.1 Perception Scale for Parental Involvement in the IB PYP

Involvement of the parents of PYP children in the IB PYP were studied through the use of the Perception Scale for Parental Involvement in the IB PYP. The scale was used to assess parents' perceptions towards Parents Association (PA), Parent Teacher Association (PTA), involvement in the IB PYP, and their expectations about the IB PYP. This perception scale consisted of 30 items distributed in three sections including Parent Association (PA), Parent Teacher Association (PTA) and Parental Involvement in IB PYP. A total of 96 parents responded to the scale. The frequency and percentage of the responses of the parents of PYP children are presented below in Table 17.

Table 17

Involvement of the Parents of Children in the IB PYP

No.	Statement	SA	A	UD	D	SD	NR

❑ **Parents Association (PA)**							
1	Availability of PA in PYP school	34 (35.4)	14 (14.6)	9 (9.4)	00	3 (3.1)	36 (37.5)
2	Membership in PA	25 (26)	7 (7.3)	10 (10.4)	8 (8.3)	5 (5.2)	41 (42.7)
3	PA meeting held every month	21 (21.9)	14 (14.6)	14 (14.6)	4 (4.2)	2 (2.1)	41 (42.7)
4	Attending PA meetings	21 (21.9)	15 (15.6)	10 (10.4)	5 (5.2)	7 (7.3)	38 (39.6)
5	Considering PA meetings very informative	24 (25)	19 (19.8)	12 (12.5)	00	4 (4.2)	37 (38.5)
❑ **Parent Teachers Association (PTA)**							
6	Availability of PTA in school	52 (52.1)	18 (18.8)	5 (5.2)	1 (1)	00	22 (22.9)
7	Membership in PTA	26 (27.1)	18 (18.8)	9 (9.4)	8 (8.3)	5 (5.2)	30 (31.2)
8	PTA meeting held every month	25 (26)	14 (14.6)	17 (17.7)	5 (5.2)	4 (4.2)	31 (32.3)
9	Often attend PTA meetings	20 (20.8)	25 (26)	8 (8.3)	9 (9.4)	6 (6.2)	28 (29.2)
10	Most of the parents attend the PTA meetings	14 (14.6)	34 (35.4)	14 (14.6)	6 (6.2)	4 (4.2)	24 (25)
11	Most of the teachers attend the PTA meetings	22 (22.9)	27 (28.1)	13 (13.5)	2 (2.1)	1 (1)	31 (32.3)
12	Receive guidance for helping ward in PTA meetings	25 (26)	36 (37.5)	7 (7.3)	1 (1)	3 (3.1)	24 (25)
13	Get opportunity to contribute to school programs	26 (27.1)	36 (37.5)	8 (8.3)	1 (1)	00	25 (26)
14	PTA invites parents as resource persons	27 (28.1)	38 (39.6)	6 (6.2)	1 (1)	00	24 (25)
15	PTA arranges/manages necessary materials and resources required for IB PYP	20 (20.8)	27 (28.1)	15 (15.6)	5 (5.2)	00	29 (30.2)
16	PTA arranges/manages necessary financial resources required for IB PYP	11 (11.5)	21 (21.9)	26 (27.1)	4 (4.2)	2 (2.1)	32 (33.3)
17	Active role of PTA in decision making of IB PYP	11 (11.5)	30 (31.2)	19 (19.8)	5 (5.2)	4 (4.2)	27 (28.1)
❑ **Parental Involvement in IB PYP**							
18	IB PYP regularly invites parents for discussing the progress of our ward	50 (52.1)	42 (43.8)	3 (3.1)	00	00	1 (1)
19	IB PYP provides freedom to parents to visit the school to know the wards' profile	49 (51)	39 (40.6)	3 (3.1)	2 (2.1)	1 (1)	2 (2.1)
20	IB PYP provides freedom to parents to visit the school to know/monitor wards' academic progress	48 (50)	40 (41.7)	2 (2.1)	4 (4.2)	00	2 (2.1)
21	IB PYP provides freedom to parents to visit the school for discussing	52 (54.2)	38 (39.6)	1 (1)	3 (3.1)	00	2 (2.1)

	wards' behaviour related problems						
22	IB PYP conducts induction programmes for parents related to curriculum and its transaction	48 (50)	37 (38.5)	2 (2.1)	3 (3.1)	2 (2.1)	4 (4.2)
23	IB PYP conducts induction programmes for parents related to the evaluation and assessment	38 (39.6)	35 (36.5)	7 (7.3)	6 (6.2)	1 (1)	9 (9.4)
24	IB PYP provides academic guidance to parents for helping our wards	42 (43.8)	41 (41.7)	2 (2.1)	2 (2.1)	00	10 (10.4)
25	Aware of the IB PYP	53 (55.2)	37 (38.5)	2 (2.1)	00	00	4 (4.2)
26	Aware of the objectives of IB PYP	50 (52.1)	35 (36.5)	5 (5.2)	00	00	6 (6.2)
27	Satisfied with the IB PYP	58 (60.4)	33 (34.4)	1 (1)	00	00	4 (4.2)
28	Actively participate in school programs	52 (54.2)	34 (35.4)	6 (6.2)	00	00	4 (4.2)
29	Satisfied with the academic progress of child	57 (59.4)	31 (32.3)	4 (4.2)	00	00	4 (4.2)
30	IB PYP teachers are professionally competent	48 (50)	39 (40.6)	4 (4.2)	1 (1)	00	4 (4.2)

(SA=Strongly Agree, A=Agree, UD=Undecided, D=Disagree, SD=Strongly Disagree)

(Figure in the parentheses indicates the percentage.)

Many parents (ranging from 22 to 41 percent) did not respond to questions relating to PA and PTA. However, when responses were recorded they were generally positive. It is interesting to note that of 60 responses relating to PA availability, 48 of these responses indicated that a PA is available. It seems that of those who responded, not only do the majority indicate PA is available, but also that they are members (32 parents) and find meetings informative. Responses relating to PTA follow a similar pattern, of those who responded a majority are members and agree or strongly agree with the positive statements. Specifically, 64 percent of respondents indicated they received guidance at PTA meetings about their child/ward and 64 percent indicated that they used PTA meetings as a means for contributing to the programme.

Unlike the items relating to PA and PTA, the majority of parents responded to the items relating to parental involvement in the IB PYP.

- Ninety-two parents (95.83 percent) agreed with the statement that the IB PYP school regularly invites parents to discuss the progress of their children/wards.

- Eighty-five parents (88.54 percent) agreed with the statement that the IB PYP conducts induction programmes for parents related to the curriculum.

- Seventy-three parents (76.04 percent) agreed with the statement that the IB PYP conducts induction programmes for the parents related to evaluation and assessment.

- Eighty-two parents (85.41 percent) agreed with the statement that the IB PYP provides academic guidance to the parents for helping their wards.

- Eighty five parents (88.54 percent) agreed with the statement that they are aware of the objectives of the IB PYP.

- Ninety-one parents (94.79 percent) agreed with the statement that they are satisfied with the IB PYP.

- Eighty-six parents (89.58 percent) agreed with the statement that they actively participate in IB school programmes.

- Eighty-eight parents (91.66 percent) agreed with the statement that they are satisfied with the academic progress of their child in IB PYP.

- Eighty-seven parents (90.62 percent) agreed with the statement that IB PYP teachers are professionally competent.

4.5.2 General Perception Scale for Parents

The parents' perceptions of IB PYP were measured through the General Perception Scale developed by the project director after consultation with experts in the field. The scale consisted of 19 items distributed in two sections including general perceptions about the IB PYP and perceptions towards IB PYP curriculum framework. A total of 96 parents responded to the scale. The frequency and percentage of the responses of the parents of PYP children is presented below.

Table 18

Parents' Perceptions of the IB PYP

No.	Statement	SA	A	UD	D	SD	NR
❑ **General Perception About the IB PYP**							
1	Aware of the objectives of IB PYP	46 (47.9)	41 (42.7)	1 (1)	00	00	8 (8.3)
2	IB PYP provides quality education	55 (57.3)	31 (32.3)	1 (1)	1 (1)	00	8 (8.3)
3	IB PYP provides scope to make child more advanced	58 (60.4)	27 (28.1)	4 (4.2)	00	00	7 (7.3)

4	Location of IB PYP school is appropriate	45 (46.9)	37 (38.5)	5 (5.2)	1 (1)	1 (1)	8 (8.3)
5	IB PYP admission process is fair and unbiased	38 (39.6)	40 (41.7)	3 (3.1)	7 (7.3)	00	7 (7.3)
6	IB PYP fees are appropriate as per the activities and facilities provided	32 (33.3)	31 (32.3)	18 (18.8)	7 (7.3)	1 (1)	7 (7.3)
7	Satisfied with the progress of child in IB PYP	48 (50)	39 (40.6)	2 (2.1)	00	00	7 (7.3)
8	Regularly visiting IB school for monitoring wards' profile & progress	49 (51)	33 (34.4)	2 (2.1)	2 (2.1)	1 (1)	9 (9.4)
❑ **Perception About the IB PYP Curriculum**							
9	Aware of the curriculum pattern followed by the IB PYP	45 (46.9)	41 (42.7)	2 (2.1)	1 (1)	00	7 (7.3)
10	IB PYP curriculum provides opportunity to our child to be familiar with the local and global issues	55 (57.3)	29 (30.2)	5 (5.2)	00	00	7 (7.3)
11	IB PYP teachers are aware of our child's positive as well as limitations and teach accordingly	42 (43.8)	40 (41.7)	8 (8.3)	00	00	6 (6.3)
12	Child's involvement in learning is high due to IB PYP curriculum pattern	43 (44.8)	34 (35.4)	11 (11.5)	1 (1)	00	7 (7.3)
13	Satisfied with the IB PYP curriculum pattern	42 (43.8)	41 (42.7)	4 (4.2)	2 (2.1)	00	7 (7.3)
14	Satisfied with the activities provided for students in IB PYP	39 (40.6)	40 (41.7)	8 (8.3)	1 (1)	00	8 (8.3)

15	IB PYP curriculum has a global significance	47 (49)	38 (39.6)	4 (4.2)	1 (1)	00	6 (6.3)
16	IB PYP curriculum suits children with different cultures	49 (51)	38 (39.6)	2 (2.1)	1 (1)	00	6 (6.3)
17	IB PYP teaching is based on child's needs, interest & capabilities	49 (51)	33 (34.4)	7 (7.3)	1 (1)	00	6 (6.3)
18	IB PYP curriculum provides opportunity to children to explore the commonalities of human experiences	45 (46.9)	37 (38.5)	6 (6.2)	1 (1)	00	7 (7.3)
19	Child acquires essential knowledge & skills through the IB PYP curriculum	44 (45.8)	43 (44.8)	2 (2.1)	00	00	7 (7.3)

(SA=Strongly Agree, A=Agree, UD=Undecided, D=Disagree, SD=Strongly Disagree)

(Figure in the parentheses indicates the percentage.)

The responses received relating to the general perception of the IB programme were overwhelmingly positive. The majority of parents (over 80 percent) agreed or strongly agreed with the following statements:

- Aware of the objectives of IB PYP
- IB PYP provides quality education
- IB PYP provides scope to make child more advanced
- Location of IB PYP school is appropriate
- Satisfied with the progress of child in IB PYP
- Regularly visit the IB school for monitoring of wards' profile & progress

The responses received relating to the perceptions of the IB curriculum were also overwhelmingly positive. The majority of parents (over 80 percent) agreed or strongly agreed with the following statements:

- Aware of the curriculum pattern followed by the IB PYP
- IB PYP curriculum provides opportunity to our child to be familiar with the local and global issues
- Satisfied with the IB PYP curriculum pattern
- IB PYP curriculum has a global significance
- IB PYP curriculum suits children with different cultures
- IB PYP curriculum provides opportunity to children to explore the commonalities of human experiences
- Child acquires essential knowledge & skills through the IB PYP curriculum

4.6 **Issues and Challenges**

The following information concerns the perception of issues and challenges that face the IB PYP as expressed by parents and teachers in India. The data has been made available from many of the instruments mentioned above and the symposium organized by the researcher.

4.6.1 **Major Challenges and Suggestions from the IB PYP Teachers**

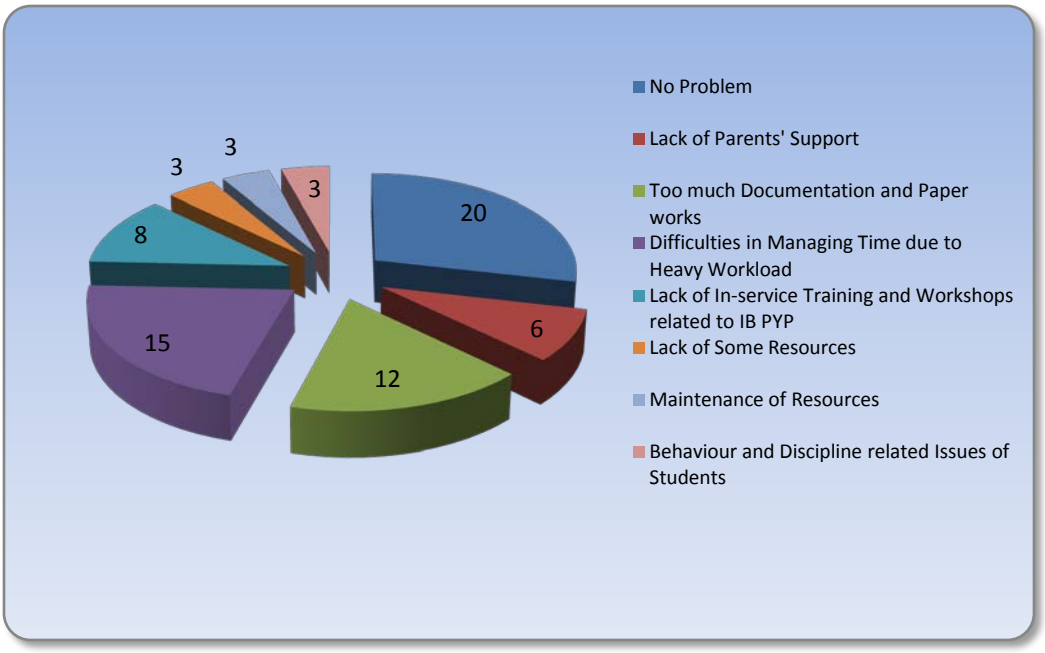


Figure 12: Distribution of teachers in terms of their challenges.

Figure 12 summarizes the responses from PYP teachers regarding their challenges. Twenty teachers (29 percent) indicated not facing any problems. Fifteen teachers (21 percent) were facing difficulties in managing time due to heavy workload and 12 teachers (17 percent) felt they had too much documentation and paperwork. The other challenges were lack of in-service training and workshops related to the IB PYP (eight teachers), lack of parental support (six teachers), lack of some resources (three teachers), maintenance of resources (three teachers), and behaviour and discipline related issues of students (three teachers).

4.6.2 Resources Needed to Overcome Challenges of PYP Teachers

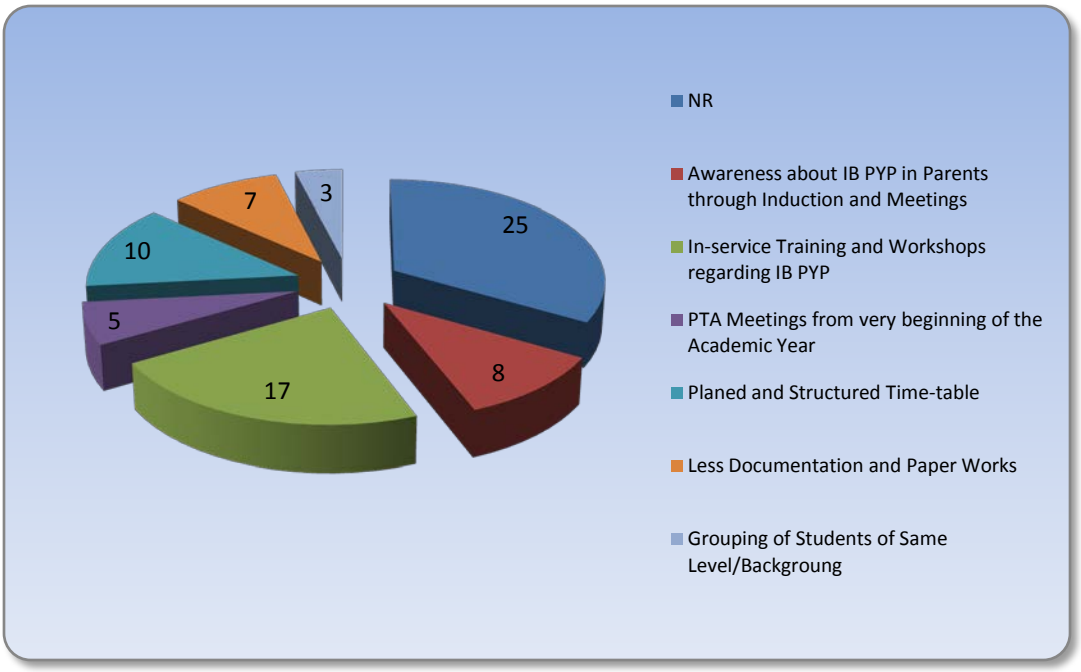


Figure 13: Distribution of teachers in terms of their needs to overcome their problems.

Figure 13 shows that 17 teachers (23 percent) indicated in-service training and workshops related to the IB PYP would help them address challenges. Ten teachers (13 percent) indicated planned and structured time-tables would enable them to overcome challenges. The other solutions needed to overcome the challenges were parental awareness (eight teachers), less documentation and paper work (seven teachers), PTA meetings from the very beginning of the academic year (five teachers), and grouping of students by level/background (three teachers).

4.6.3 Major Issues and Challenges of IB PYP in India

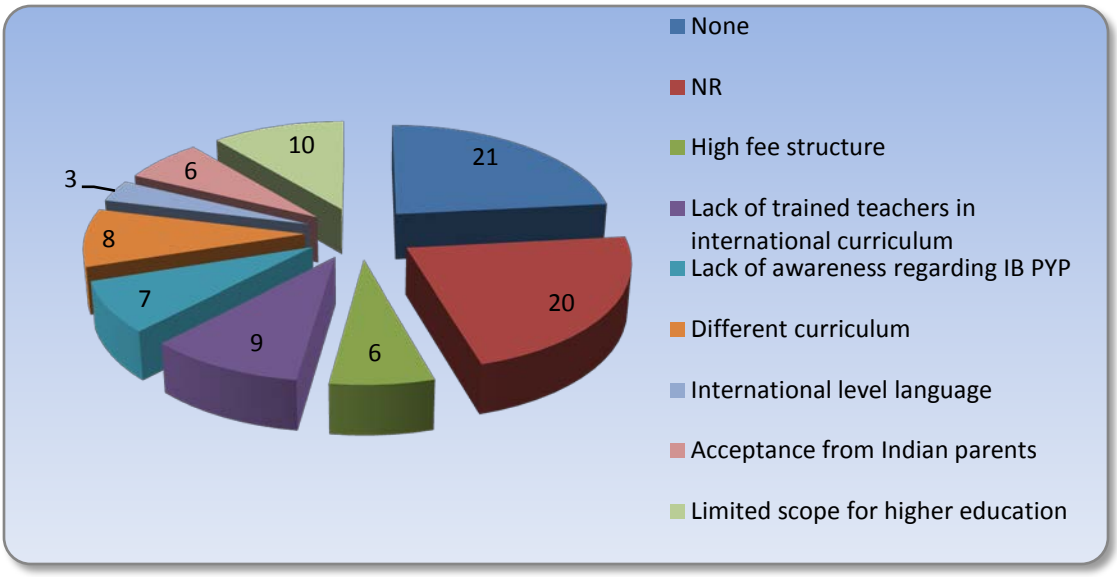


Figure 14: Distribution of parents in terms of major issues and challenges of the IB PYP in India. NR = No Response.

Figure 14 shows that 21 parents (23 percent) reported no major issues or challenges regarding the IB PYP. Additionally, 20 parents did not respond. The issue identified by the remaining parents included high fee structure (six parents), lack of trained teachers in international curriculum (nine parents), different curriculum (eight parents), international level language (three parents), acceptance from Indian parents (six parents) and limited access to higher education after completion of the IB schooling (10 parents).

4.6. Suggestions to Strengthen the IB PYP

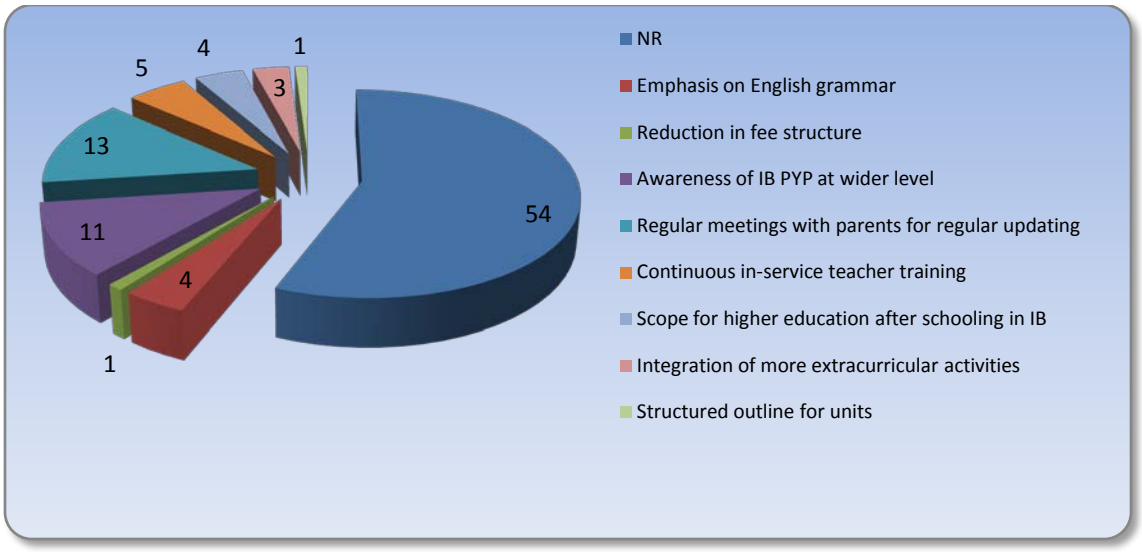


Figure 15: Distribution of parents' responses in terms of suggestions to strengthen the IB PYP. NR= No Response.

Figure 15 shows that 54 parents (56 percent) did not respond with suggestions. Suggestions from the respondents included a need to emphasize regular meetings with parents for regular updating (13 parents), awareness of the IB PYP at a wider level (11 parents), continuous in-service teacher training (five parents), improvement of access for higher education (four parents), English grammar (four parents), reduction in fee structure (one parent), and integration of more extracurricular activities and structured outlines for units (one parent).

4.6.5 Major Reasons for Sending Child to an IB PYP School

Forty-seven parents (49 percent) mentioned the reason for sending their child to a PYP school was to achieve overall development with a globally-suited curriculum. Twenty-

two parents (22.91 percent) mentioned good teaching-learning methodology as the reason for sending their child to an IB PYP school. The remaining parents did not respond.

4.6.6 Comment on Any Aspect of the IB PYP

When parents were asked to comment on any aspect of IB PYP other than asked above, 71 parents (73.95 percent) did not respond. Twenty-five (26.04 percent) mentioned positive aspects of the IB PYP such as a cooperative staff (six parents), comprehensive evaluation of children (six parents) and more practical examinations (two parents). They also suggested continuous in-service teacher training (four parents), more specific grading and orientation for parents (four parents), integration with other Indian school boards and linkage with higher education institutions (one parent), and to advertise and popularise the IB PYP in India (two parents).

CHAPTER V

Discussion and Directions for Future Studies

5.0 Introduction

On the basis of the analysis and interpretation of data in the Chapter IV, the major findings of the present study have been drawn in terms of curriculum adaptation, implementation and impact on the students' learning outcomes along with the perceptions of PYP teachers, students, parents and school heads concerning the IB PYP implementation in India. Major challenges and suggestions for improvement are presented in this chapter.

Most of the PYP students had positive attitudes towards the IB PYP. The positive attitudes of the PYP students were seen in the areas of the overall PYP due to: 1) interesting and joyful study processes, 2) cooperation and helpful nature of PYP teachers, 3) varied learning opportunities, 4) the physical environment, 5) safety, 6) encouragement and appreciation in creative work, 7) meaningful and important school projects, 8) choice and freedom in project work, 9) group learning, 10) opportunities to give their best, 11) involvement in decision making processes, 12) face-to-face interaction in the classroom, 13) teachers' ability to identify learning difficulties of students, 14) more scope in sports, 15) clubs and other activities outside of the classroom, 16) an enjoyable programme of inquiry, 17) social responsibility and 18) being made aware about mistakes. The PYP students' positive attitude was also due to the praise and rewards from the teachers for their accomplishments, friendly and supportive nature of the teachers, and being role models for hard task, learning discipline and inquiring minds.

Most of the parents were receiving regular invitations from the IB PYP schools for discussing the progress of their wards/children and had freedom to visit the school to know their wards' profile, academic progress and behaviour-related problems. Also, IB PYP schools were conducting induction programmes related to curriculum and transaction, evaluation and assessment. Because of these reasons, most parents were satisfied with the IB PYP and academic progress of their child and from the academic guidance received could be better help to their wards. Parents' aspirations and perceptions on IB PYP were found to be positive and they were satisfied with the IB PYP, curriculum pattern, activities provided and their child's progress.

5.1 Strategies for PYP Implementation in Indian IB Schools

Analysis of the findings across the IB PYP site visits and the survey data indicated the following strategies adapted by IB Schools for the successful implementation of the PYP:

- Integrated holistic approach for program inclusion
- Professional development of teachers
- Learning resource development
- Enhancing community partnership
- Transformational leadership

The above strategies as successful experiences were witnessed and experienced by the research team through site visits and interactions with personnel. The details of each one of them are discussed below.

5.1.1 Integrated and Holistic Approach for Program Inclusion

It was observed from the study that the strategy adopted by most IB schools was the integrated and holistic approach for program implementation in which the school made every attempt to involve the students, teachers, parents and other personnel involved in the PYP to design and develop the trans-disciplinary curriculum based on the thematic approach. In each of the schools visited the ambience in and around the school provided evidence of this approach toward implementation. Colorful visual displays of student work, IB Learner Profile and school-wide projects reflected the IB philosophy. The study revealed that the school heads and coordinators of the IB PYP continuously visited the website for all the necessary queries with respect to the curriculum and its transaction and found it a user-friendly and resourceful. While interacting with the parents it was observed that most were aware of the system of the IB PYP and realized that is quite different from the traditional system of primary education in the respective Indian states. It was voiced that the PYP is difficult to explain and can only be experienced by observing the developmental changes of the children over the years in terms of their behavior, thinking patterns, social sensitivity and global perspectives. Through orientation programs and school-based workshops, teachers learn the guidelines of IB curriculum and expectations. With frequent professional development programs, each school is striving to hone the necessary competencies among teachers to execute the

trans-disciplinary pedagogy. The integrated and holistic approach was observed in the schools to adapt and implement the PYP curriculum in encouraging the participation of the teachers, students, parents and management right from curriculum planning for six thematic areas for program of inquiry surrounded by the five essential elements. Collaborative planning was observed in the IB schools. It was observed through weekly grade level meetings during the school day supported by the PYP coordinator and principal and periodic meetings across grade levels of the IB PYP. The special area teachers also typically received the same training as the grade level teachers and the PYP coordinator helped them to plan how they supported the IB unit. Collaborative planning varies across schools. It was a challenge for the schools to plan collaboratively, but schools consistently involved all teachers as instrumental in integrating and implementing the curriculum of the IBPYP. It was also noted that the National Curriculum Framework (2005) which has broad guidelines for school education in India was also taken into consideration by the schools while developing and integrating the curriculum of the PYP. As a result, contextualizing the PYP in the India context is seen in majority of the schools.

5.1.2 Professional Development of Teachers

Professional development of teachers was found to be challenging in most of the schools however the continuous professional training of teachers by the schools comes in various forms, ranging from neighboring school visits, various in-house professional development programs for teachers on several dimensions, IB workshops and seminars. Networking with other schools was observed as a key component in the program to

update, get new ideas, and network with other teachers. Professional development of teachers in IB schools was found a challenging task of the administrators due to attrition of teachers. It was observed that teachers were appointed as PYP teachers by considering their academic qualifications as per the general requirement for recruitment of teachers per the government rules and regulations; however the schools have autonomy and no influence from the government agencies in this process. Therefore, it was evident in some schools that teaching competency was given more priority than academic qualifications while recruiting teachers for IB programmes. The greatest challenge faced by the majority of the sample schools was that of non-availability of the trained teachers, especially for the IB PYP. As there is no university or college of education in India offering teacher education programs for the international schools, the only avenue available for the IB schools for the professional development of teachers is the IBO organized programs for the specific purposes of PYP which are considered very expensive and the school-based programs conducted by the PYP coordinator. Continuous professional development of teachers for the IB PYP was the need of the hour for the successful implementation of the program.

5.1.3 Learning Resource Development

As the whole approach of the PYP is child-centered and constructive pedagogy in which the learner is at the centre of the whole process, learning resources play a vital role in curriculum implementation. Developing and sharing of learning resources among the teachers and the students were instrumental in realizing the purpose of PYP. To facilitate the development of learning resources and sharing among teachers, many schools use

concerted efforts by taping the resources and talents available in the school complex. Information and communication technology was used in supporting IB units - knowledge resources pertaining to six trans-disciplinary areas and students projects related to the program of inquiry.

5.1.4 Enhancing Community Partnership

Parents and community are seen as important stakeholders in the IB schools. Strategies to promote family and community involvement were very similar across schools. Many of the traditional methods (newsletters, communication sent home, website, etc.) schools use for this purpose were evident. However, the case study schools all had welcoming climates and outwardly demonstrated the IB philosophy that everyone was valued. Schools adapted the strategies to promote community involvement including inviting family members to participate in classroom activities, making whole school activities family-oriented, organizing PTA and MTA meetings, organizing open houses, celebrating Parents' Day, Childrens' Day, Teachers' Day, School Annual Day and overcoming language barriers to facilitate communication. As a result, parents are made responsible for their wards/child's learning. The significance of the IB PYP was that of active participation of parents in the school programs as they strongly believed that their ideas and suggestions were respected and implemented in the school by the school authorities.

5.1.5 Transformational Leadership

The transformational leadership of the school principal and the PYP coordinator were found necessary on the front end for the successful implementation of the PYP. It was observed that in schools where the PYP coordinator had been full-time early on in the authorization process these schools had made much progress towards integrating the PYP curriculum and in addressing the trans-disciplinary nature of the IBPYP, trans-disciplinary teaching and use of the inquiry method of instruction. The PYP coordinator was the most important person in the PYP to exercise the transformational leadership in building the learning culture in the institution, enhancing creativity among the teachers, facilitating communication across the grades, gathering resources to support units, finding answers to questions, observing in classrooms and meeting with teachers to troubleshoot what s/he is seeing. The coordinator is the keeper of the unit planners and generally keeps the model going and encourages students to engage in the learning process thus realizing the philosophy of IB.

5.2 Major Challenges Faced by the IB Schools to Implement the Primary Year Programme

The following challenges have emerged from the study:

- It was found that acquiring and maintaining adequate instructional materials to support the IB units, which can change, is an ongoing challenge to IB schools. In some sample schools where students are from different countries and having diverse learning needs, creating a cross cultural learning environment becomes an additional challenge.

- Management of time by the teachers due to heavy workload, documentation and paper work, frequent school-based training, lack of resources, and maintenance of resources was found as a challenge. Integration of the state curriculum with IB units was a challenge shared by all teachers and administrators.

- Teachers generally rely on the PYP coordinator to seek answers to questions related to program implementation. Teachers saw IB workshops and training opportunities as the primary form of support from IB directly.

- Most of the parents were satisfied with the facilities available in the IB PYP however, it was suggested that IB PYP in India is an expensive program. Though the parents are interested to continue their children in the IB Program, the school fee is a discouraging factor. However, the majority of the parents were satisfied with the IB PYP curriculum and its transaction.

- The leadership behaviour of the principals of IB PYP schools in India as perceived by the PYP teachers was found effective. The effective leadership could be the major reason for the success of IB PYP in India. However, teacher leadership in IB programmes are also important and therefore teacher development aiming at nurturing leadership capabilities was found as a challenge.

- Consultative support for the IB schools was found to be necessary during the authorization process. Some schools have limited funds to hire independent consultants.

5.3 Direction for Future Studies

The present study provided the direction for the further studies to strengthen the IB PYP in India. The study identified critical issues in adaptation and implementation of the PYP in India.

1. Professional Development of Teachers, especially in the Indian context, needs special focus. Intensive studies can be carried out to identify the training needs of teachers and PYP coordinators especially for contextualizing the programme by considering the cultural context of the school.
2. Networking of institutions and collaborative academic programs within IB and with other national curriculum boards was suggested by the stakeholders. Explorative studies need to be conducted to study the feasibility of such collaboration with national agencies for promoting coherence and equivalence. The Central Board of Secondary Education (CBSE), Government of India has already started the CBSE-I Curriculum as the Indian International Curriculum in which certain components of the IB PYP are incorporated.
3. Comparative studies across IB PYP schools in India and also comparative studies between IB PYP schools and local schools following specific state or national curriculum need to be conducted to specifically study the learning outcomes of the students and the teacher classroom processes.

Such studies provide a base for studying the effectiveness of the IB pedagogy.

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APPENDIX I
LIST OF EXPERTS

1. Prof. R.G. Kothari (Dean, FEP, MSU, Baroda)
2. Prof. S. Kumar (UGC Professor Emeritus, MSU, Baroda)
3. Prof. N. Pradhan (Head, DEA, MSU, Baroda)
4. Prof. S.C. Panigrahi (Head, CASE, MSU, Baroda)
5. Prof. M.N. Deshmukh (Mumbai)
6. Prof. V.D. Bhatt (RIE, Bhopal)
7. Prof. K.Dorasamy (Former Principal, RIE, Mysore, Member, National Council of Teacher Education, Southern Region, India)
8. Dr. P.V. Xavier (Principal, Navrachna College of Education, Baroda)
9. Dr. Anjali Khilwadkar (Assistant Prof. CASE, MSU, Baroda)
10. Dr. MilindSahastrabuddhe (Associate Prof. DEA, MSU, Baroda)

APPENDIX II

International Baccalaureate School Research Project
Department of Educational Administration
Faculty of Education& Psychology
The M.S.Universityof Baroda
Vadodara.

INSTITUTIONAL PROFILE

(A) GENERAL DETAILS:

- ❑ Name of School: _____
- ❑ Location of the School: _____
- ❑ Establishment Year of School: _____
- ❑ Timing of School: _____ a.m./p.m. to _____ a.m./p.m.
- ❑ Mission of Starting the School: _____

_____

- ❑ Number of Teaching Staff: _____
- ❑ Number of Non-teaching Staff: _____
- ❑ ClasswiseTotal Teacher-Student Ratio:

Class	tal Number of Students	otal Number of Teachers	her-Student Ratio
ursery			
r. KG			
r. KG			
Std. I			
Std. II			
td. III			
td. IV			
Std. V			
Total			

- ❑ Give details regarding the Students' Exchange Programme: _____

_____

_____

(b) INFRASTRUCTURAL FACILITIES:

- ❑ Availability of Facilities:

- Total Area of School Building (in Sq Feet): _____
- Number of Classroom Available: _____
- Availability of Kitchen Facility: Yes/No
- Availability of Drinking Water Facility: Yes/No
- Availability of Playground Facility: Yes/No
- Availability of Play Equipment for Playing Different Games: Yes/No
- Availability of Different Teaching-Learning Aids: Yes/No
- Availability of Mathematics Laboratory Yes/No
- Availability of Science Laboratory Yes/No
- Availability of Computer Laboratory: Yes/No
- Availability of Library: Yes/No
  If yes, mention the total number of books available in library _____
- Availability of Hostel Facility: Yes/No
- Availability of Other Facilities: _____

  _____

  _____

  _____

- Whether the resources are shared by PYP/MYP/DP Yes/No
- Are the resources timely accessible to the PYP students? Yes/No
  If No, then what are the reason/s?

  _____

  _____

  _____

  _____

(C) ENROLLMENT FIGURE OF THE STUDENTS FOR LAST FIVE YEAR:

ar		rsery		KG.		KG.		d-I		d-II		l-III		-IV		l-V		tal	
	ed Students																		
-11	ed Students MYP																		
	pped out																		
	Total																		
	ed Students																		
-10	ed Students MYP																		
	pped out																		

	Total																		
	ed Students																		
-09	ed Students MYP																		
	pped out																		
	Total																		
	ed Students																		
-08	ed Students MYP																		
	pped out																		
	Total																		
	ed Students																		
-07	ed Students MYP																		
	pped out																		
	Total																		

B = Boys, G = Girls

- ❑ What kind of admission process your school is following?

_____

_____

_____

_____

(D) NATURE OF FUNDING:

- ❑ What are the financial sources of your school? _____

_____

_____

- ❑ What is the fee structure in your school? _____

_____

_____

- ❑ Give details regarding the dimension wise structure of fees of your school.

- Admission fees _____
- Deposit _____
- Developmental charges _____
- Science Laboratory fees (if any) _____
- Computer Laboratory fees (if any) _____
- Library Charges (if any) _____

- Mention in details about the Other Charges &Fees (if any) _____

  _____

  _____

- Total (including all the above dimensions) _____

❑ Are you receiving proper fund for your school budget? Yes/No

- If yes then mention the name of the funding sources.

  _____

  _____

- If no, then how you manage?

  _____

  _____

  _____

❑ Are you receiving any type of contingency grant from the IB? Yes/No

- If yes then how do you spend the grant?

  _____

  _____

❑ Are you facing any kind of financial difficulties? Yes/No

- If yes then give the reason/s for the financial difficulties and how you manage it.

  _____

  _____

(E) TEACHERS' PROFILE:

❑ Give details regarding the Teaching Staff of your school as per the following table:

lo.	me of acher	der	g Subject	cademic alification G/PG)	rofessional ualification (if any) BPEd/PTC/BEd/ Ed/Other)	Nature of Duty		nce in years
						lvement in eaching	vement in activities	

(G = Graduation, PG = Post-graduation)

(F) TEACHERS' PROFESSIONAL DEVELOPMENT:

- ❑ Are you organizing in-service training programmes for your school teachers?

  Yes/No

- If yes, then mention the nature and duration of the in-service training programmes organized by your school.

  _____

  _____

- If no, then mention the reasons.

  _____

  _____

- ❑ What kind of support provided to your school teachers by your school and IB for their professional development?

  _____

  _____

- ❑ Mention the details regarding the in-service training/Refresher courses/Orientation courses organized by your school (if any) in following table:

No.	**Theme**	**Institute**	**uration**	**port received from external ency/organization**

(G) PARENTS PARTICIPATION:

- ❑ Do the parents often visiting your school whenever required? Yes/No

- ❑ Do the parents regularly check their students' progress? Yes/No
- ❑ What type of support you get from the parents?

  _____

  _____
- ❑ What type of problems you face from the parents?

  _____

  _____

(H) MAJOR PROBLEMS/CHALLENGES:

- ❑ What kind of problems/challenges your school is facing asa IB school?

  _____

  _____

  _____

  _____
- ❑ Write below if you wish to mention any information regarding your school, IB, problems, needs or any other that is not covered in above.

  _____

  _____

  _____

  _____

  _____

  _____

APPENDIX III

International Baccalaureate School Research Project
DEPARTMENT OF EDUCATIONAL ADMINISTRATION
FACULTY OF EDUCATION AND PSYCHOLOGY
THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA
VADODARA-390002, GUJARAT, INDIA.
Phone: 0091-265-2792631 (O)

Date:..2012

Dear Sir/Madam,

Greetings from Baroda. This is in continuation with our earlier communication regarding the IB School Research Project. We have developed research tools to collect the necessary data about your organization. You are requested to read the following questionnaire carefully and provide response to each question. The data will be kept confidential and will be used exclusively for this research project.

Your cooperation and support are highly appreciated.

Yours Sincerely,

Dr. K. Pushpanadham
Project Director

QUESTIONNAIRE FOR SCHOOL AUTHORITY

❑ **General Details**

- Name of Trust/Organization under which the IB School Running: _____
- Is it a registered trust/organization? Yes ☐ No ☐
- Name of the Director/Chairman: _____
- Educational Qualification: _____
- Occupation/Profession: _____
- Profiles of the Members of the Trust/Organization:

Sr. No.	Name of Member	Gender	Position	Qualification	Nature of Duty
1					
2					
3					
4					
5					
6					
7					
8					

- Do you have School Management Committee (SMC)? Yes ☐ No ☐
  - If yes, then give details regarding the SMC members &their role.

Sr. No.	Name of Member	Gender	Position	Qualification	Function
1					
2					
3					
4					
5					
6					
7					
8					

❑ How is your school coordinating with IB regarding PYP?

_____

_____

_____

❑ **Coordination by the Coordinator with the Principal:**

1) How is the teachers'recruitment carried out?

_____

_____

2) Which are the activities planned and executed for the professional development of IB PYP staff?

- Content Enrichment: _____

  _____

- Personality Development: _____

  _____

- Any Other: _____

  _____

3) How is the performance appraisal of PYP teachers conducted?

_____

_____

4) How do you monitor teacher performance in your school?

_____

_____

❑ **Coordination of IB PYP Curriculum:**

5) How is the IB PYP curriculum designed?

_____

_____

6) Do you modify IB PYP curriculum keeping in view the needs of local community?

Yes ☐ No ☐

- If yes, state some changes you have made in IB PYP curriculum.

_____

_____

- If no, state the reasons for the same. _____

  _____

7) How do you coordinate the IB PYP curriculum evaluation?

   _____

   _____

8) How are time and different resources acquired and used under IB PYP?

   _____

   _____

❑ Describe the nature of decision making process regarding different aspects of IB PYP and the involvement of different stakeholders in it.

_____

_____

_____

_____

❑ Are the teachers involved in the functional level decision making?

Yes ☐ No ☐

- If yes, list out functional decisions in which teachers are involved.

  _____

  _____

- If no, give the reasons for the same.

  _____

  _____

❑ **Coordination with Other Schools:**

9) Is there any coordination between your school and other IB Schools located in India? Yes ☐ No ☐

- If yes, give details with reference to the following areas.

- Curriculum Design: _____

  _____

  _____

- Scholastic & Non-scholastic Competitions: _____

  _____

  _____

- Resource Sharing: _____

  _____

  _____

- If no, give reasons for the same.

  _____

  _____

10) Do you have any coordination between your school and Central Board Schools located in your area? Yes ☐ No ☐

- If yes, give details with reference to the coordination in the following areas.
- Curriculum Design: _____

  _____

  _____

- Scholastic & Non-scholastic Competitions: _____

  _____

  _____

- Resource Sharing: _____

  _____

  _____

- If no, give the reasons for the same.

  _____

  _____

11) Do you have any coordination between your school and State Board Schools located in your area? Yes ☐ No ☐

- If yes, give details with reference to the coordination in the following areas.
- Curriculum Design: _____

_____

_____

- Scholastic & Non-scholastic Competitions: _____

_____

_____

- Resource Sharing: _____

_____

_____

- If no, give the reasons for the same.

_____

_____

❑ **Coordination with Stake Holders:**

12) What is the role of parents in coordination process of IB PYP?

_____

_____

_____

13) What is the role of PTA in coordination of IB PYP?

_____

_____

14) Is the local community involved in coordination of IB PYP? Yes ☐ o ☐

- If yes, state the role of local community in coordination of IB PYP.

_____

_____

15) Are the students involved in different activities of IB PYP? Yes ☐ No ☐

- If yes, write about the role of students in IB PYP.

_____

_____

16) Is there an Alumni Association (AA) in your school? Yes ☐ o ☐

- If yes, state the role of AA in IB PYP.

_____

_____

APPENDIX IV

Classroom Observation Schedule

Name of School: _____

Date of Observation: _____ **Time Duration of Observation:** ____

Name of the Teacher:_____

Subject: _____ **Standard:**

-: Instructions for Observer:-

a) Observe the lesson keeping in mind the points given in the observation schedule.

b) Based on the information given, tick mark (√) in the 4 point scale viz. Excellent (E), Good (G), Satisfactory (S) & Needs Improvement (NI) whichever is applicable against the particular area observed. Write your comment on particular area in the Remark column given.

c) Give the additional information to the reference of any other option whenever given.

❑ PRE ACTIVE PHASE

I. Preparation of Lesson		**E**	**G**	**S**	**NI**	**Remark**
1	Teacher's awareness of curriculum framework & uniqueness of PYP					
2	Preparation relevant to the level of Students					
3	Preparation according to the size of class					
4	Significance & relevance of content to the prior experience & understanding of students					
5	Content analysis					
6	Clear and specific objectives of lesson					
7	Selection of teaching methods and teaching activities according to the age level of learners					
8	Consideration of the psychological principles					

9	Planning of classroom activities					
10	Development of learning resources					
11	Consideration of previous knowledge of Students					
12	Consideration of available time as per the objectives of the lesson					
Any other _____						

❑ INTER ACTIVE PHASE

II. Teaching-Learning Process		**E**	**G**	**S**	**NI**	**Remark**
1	Use of teaching techniques according to the Objectives					
2	Use of meaningful communication					
3	Active involvement of learners					
4	Use of learning resources					
5	Learner initiated activities					
6	Selection & use of learning resources (local & global)					
7	Learner centered teaching method					
8	Encouragement & appreciation of learners					
9	Development of conceptual understanding					
10	Demonstration of positive attitudes					
11	Demonstration of responsible behavior through own actions					
12	Presentation of creative ideas relevant to the subject areas					
13	Teacher continually monitors about the needs & capabilities of each student during teaching-learning process					
14	Teaching based on students' needs, interest & capabilities					
15	Varying in pace of teaching as per individual differences					
16	Balance between intellectual, social & personal learning and interlinking them					

17	Positive & negative feedback and its impact					
18	Content with global significance/ suited to all students with different cultures					
19	Correlation of knowledge, concepts and skills from the traditional subject areas					
20	Utilization of transdisciplinary model of teaching-learning					
21	Revision of transdisciplinary model in teaching					
Any other _____ _____						
III. Use of Skills		**E**	**G**	**S**	**NI**	**Remark**
1	Introduction (I)					
2	Questioning (Q)					
3	Reinforcing (R)					
4	Explanation (E)					
5	Illustration with Examples (IE)					
6	Stimulus Variation (SV)					
7	Silence & Non-Verbal Cues (SNVC)					
8	Gestures (G)					
9	Probing (P)					
10	Techno Pedagogy (TP)					
11	Use of Audio-Visual Aids (AV)					
12	Use of Black Board (UBB)					
13	Achieving Closure (AC)					
Any other _____ _____						
IV. Classroom Management		**E**	**G**	**S**	**NI**	**Remark**
1	Seating arrangement					
2	Grouping students as per activities					
3	Availability of materials					
4	Development of class as per the time					

5	Managing of internal & external disturbance					
6	Clear & relevant instruction					
7	Maintaining the discipline					
Any other _____						

❑ POST ACTIVE PHASE

V. Assessment/Evaluation		**E**	**G**	**S**	**NI**	**Remark**
1	Evaluation techniques used					
2	Learning outcomes					
3	Activities provided for evaluation					
4	Instruction provided during evaluation					
5	Quality of home work assigned					
6	Achievement of lesson objectives					
Any other _____ _____						

❑ OVERALL OBSERVATION

- **Positive Points**

1. _____
2. _____
3. _____
4. _____
5. _____

- **Areas that Needs Improvement**

1. _____
2. _____
3. _____
4. _____
5. _____

APPENDIX V

International Baccalaureate School Research Project
DEPARTMENT OF EDUCATIONAL ADMINISTRATION
FACULTY OF EDUCATION AND PSYCHOLOGY
THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA
VADODARA-390002, GUJARAT, INDIA.
Phone: 0091-265-2792631 (O)

Date: . .2012

Dear Sir/ Madam,

Greetings from Baroda. This is in continuation with our earlier communication regarding the IB School Research Project. We have developed research tools to collect the necessary data from the IB PYP teachers. You are requested to read the following questionnaire carefully and provide your response to each question. The data will be kept confidential and will be used exclusively for this research project.

Your cooperation and support are highly appreciated.

Yours Sincerely,

Dr. K. Pushpanadham
Project Director

PERSONNEL DATA SHEET OF THE TEACHERS

- Name of School: _____
- Name: _____
- Age: _____ years
- Marital Status: Married ☐ Unmarried ☐
- Educational Qualification: _____
- Total Teaching Experience: _____ years
- Nature of Job: Permanent ☐ Ad hock ☐ Temporary ☐

LEADERSHIP BEHAVIOUR DESCRIPTIVE QUESTIONNAIRE (LBDQ)

This LBDQ (developed by Halpin & Winer (1952)) is composed of a series of short description statements regarding the behavior of school principal. All the 41 items of the tool are to be rated on a scale ranging from Always (A) to Never (E). As a member of school community, kindly reach the each item and indicate your response to each form of behavior by tick mark (√).

Sr. No.	Statement	Always (A)	Often (B)	Occasionally (C)	Seldom (D)	Never (E)
1	S/he does personal favors for group members.					
2	S/he makes her/his attitude clear to the group.					
3	S/he does little things which make it pleasant to be a member of the group.					
4	S/he tries out new ideas with the group.					
5	S/he acts as the real leader of the group.					
6	S/he is easy to understand.					
7	S/he rules with an iron hand.					
8	S/he finds time to listen to group members.					
9	S/he criticizes poor work.					
10	S/he gives advance notice of changes.					
11	S/he speaks in a manner not to be questioned.					
12	S/he keeps to her/himself.					
13	S/he ensures the personal welfare of individual group members.					
14	S/he assigns group members to particular tasks.					
15	S/he is the spokesman of the group.					
16	S/he schedules the work to be done.					
17	S/he maintains definite standards of performance.					
18	S/he refuses to explain her/his actions.					
19	S/he keeps the group informed.					
20	S/he acts without consulting the					

	group.					
21	S/he backs up the members in their actions.					
22	S/he emphasizes the meeting of deadlines.					
23	S/he treats all group members as her/his equals.					
24	S/he encourages the use of uniform procedures.					
25	S/he gets what s/he asks for from her/his superiors.					
26	S/he is willing to make changes.					
27	S/he makes sure that her/his role in the organization is understood by group members.					
28	S/he is friendly and approachable.					
29	S/he asks group members follow standard rules and regulations.					
30	S/he fails to take necessary action.					
31	S/he makes group members feel at ease when talking with them.					
32	S/he lets group members know what is expected of them.					
33	S/he speaks as the representative of the group.					
34	S/he puts into action of the suggestions made by the group.					
35	S/he ensures that group members are working up to capacity.					
36	S/he allows other people to take leadership in the group.					
37	S/he recognizes and motivates good performers.					
38	S/he gets group approval in important matters before going ahead.					
39	S/he ensures that the work of the group members is coordinated.					
40	S/he keeps the group working together as a team.					
41	S/he evaluates the performance of group members and provides feedback and support.					

- Any other information regarding the leadership behavior:

_____

_____

APPENDIX VI

JOB SATISFACTION RATING SCALE

This Rating Scale is consists of 20 items pertaining to the service and other general conditions in a school. All the items of the tool are rated on a scale from Highly Satisfied (HS), Satisfied (S), Neutral (N), Dissatisfied (D) and Highly Dissatisfied (HD). Kindly read each item and tick mark (√).

Sr. No.	Statement	HS	S	N	D	HD
1	Professional programmes conducted by the school					
2	Opportunities for in-service training in IB PYP					
3	Opportunities in IB PYP for improvement of one's competencies					
4	Clarity in job description and profile					
5	Job security					
6	Provision for career advancement					
7	Salary and other financial gains					
8	Physical facilities in the school					
9	Safety measures in the school					
10	Communication and information flow					
11	Colleagueship					
12	Leadership of the Principal					
13	Parental Involvement and contribution					
14	Recognition and Appreciation of creative work					
15	Performance Appraisal Procedure					
16	Students' discipline					
17	Encouragement for innovations in teaching					
18	Collaboration with neighboring schools					
19	International Linkages and partnership					
20	Autonomy for the teachers					

❑ **Following are open ended questions related to your job in IB PYP. Give your responses to every questions:**

1. Which are the major problems you face as IB PYP teacher?

   _____

   _____

   _____

2. Which are your needs to overcome these problems?

   _____

   _____

   _____

3. Which are dissatisfying factors that affect your job?

   i. _____

   _____

   ii. _____

   _____

   iii. _____

   _____

   iv. _____

   _____

   v. _____

   _____

4. State down your suggestions for limiting dissatisfying factors.

   i. _____

   _____

   ii. _____

   _____

   iii. _____

   _____

   iv. _____

   _____

   v. _____

   _____

APPENDIX VII

BANDURA'S INSTRUMENT
TEACHER SELF-EFFICACY SCALE

This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinions about each of the statements below by circling the appropriate number. Your answers will be kept strictly confidential and will not be identified by name.

Efficacy to Influence Decision making

How much can you influence the decisions that are made in the school?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you express your views freely on important school matters?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

Efficacy to Influence School Resources

How much can you do to get the instructional materials and equipment you need?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

Instructional Self-Efficacy

How much can you do to influence the class sizes in your school?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to get through to the most difficult students?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to promote learning when there is lack of support from the home?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to keep students on task on difficult assignments?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to increase students' memory of what they have been taught in previous lessons?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to motivate students who show low interest in schoolwork?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to get students to work together?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to overcome the influence of adverse community conditions on students' learning?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to get children to do their homework?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

Disciplinary Self-Efficacy

How much can you do to get children to follow classroom rules?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to control disruptive behavior in the classroom?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to prevent problem behavior on the school grounds?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

Efficacy to Enlist Parental Involvement

How much can you do to get parents to become involved in school activities?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you assist parents in helping their children do well in school?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to make parents feel comfortable coming to school?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

Efficacy to Enlist Community Involvement

How much can you do to get community groups involved in working with the schools?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to get churches involved in working with the school?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to get businesses involved in working with the school?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to get local colleges and universities involved in working with the school?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

Efficacy to Create a Positive School Climate

How much can you do to make the school a safe place?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to make students enjoy coming to school?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to get students to trust teachers?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you help other teachers with their teaching skills?

1 2 3 4 5 6 7 8 9
Nothing Very Little Some Influence Quite a Bit A Great Deal

How much can you do to enhance collaboration between teachers and the administration to make the school run effectively?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to reduce school dropout?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to reduce school absenteeism?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

How much can you do to get students to believe they can do well in schoolwork?

1	2	3	4	5	6	7	8	9
Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal

APPENDIX VIII

EMOTIONAL INTELLIGENCE SCALE FOR STUDENTS

This Emotional Intelligence Scale (developed by Yadav & Gupta, 2011) consists of 61 items regarding different emotions. All the items are rated on a scale ranging from Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD). Kindly read each item and give your response by a tick mark (√).

Sr. No.	Statement	SA	A	UD	D	SD
1	I am fully aware of my anger and its consequences.					
2	I would hide joy and happiness of my success from other students who are failure and sad.					
3	If I don't succeed in home work, I quit it.					
4	I am very popular in my group and my decision is accepted by group members.					
5	I am very sensitive and responsive to the feelings of others.					
6	I love my friends and classmates.					
7	I do not work to make depression go away; I allow depression to go away with time.					
8	When I feel depressed, I think of my past achievements and feel enthusiastic and confident.					
9	I am unable to communicate my thoughts freely and publicly.					
10	I recognize if others are distressed.					
11	It's difficult for me to say whether I am afraid of the person in authority.					
12	I hardly find time to update myself and practice new ideas.					
13	I recoup quickly after a setback.					
14	I do not listen to the suggestions of my friends/classmates.					
15	I politely point out to my friend his/her awkward behavior.					
16	I am sure I enjoy the company of my friends and relatives.					
17	I do not have enough check on my emotions and sometimes this spoils my relationship with others.					
18	I agree that productive self-criticism is the key to self-motivation.					
19	I am liked by the whole class because of my friendly					

	nature.					
20	I criticize others in public.					
21	When I feel guilty I am able to know why I am feeling so.					
22	People trust me because I am fair, honest and just patient in dealing with others.					
23	I motivate others for their better performance.					
24	I am not sure whether I am comfortable expressing my feeling to others.					
25	I handle my depression by listening to music, reading jokes or funniest corner of the newspaper.					
26	I am persistent in my efforts even in the face of failure and frustration.					
27	I am not considerate with my friends and family members.					
28	I take active interest in others work.					
29	I am unable to recognize my anger.					
30	I find it difficult to deal with impulsive people.					
31	I provide motivational support to peers and family members, as needed, to make stronger relationships.					
32	I do not like to share my belongings/things with friends.					
33	I am able to build trust with others.					
34	I do not know whether I am liked by my friends and relatives.					
35	I can take care of my family members/classmates/subordinates and constantly encourage them.					
36	I do not reassess my goals to set new ones.					
37	I do not like teachers who are biased because I believe in democratic dealings.					
38	I find it easy to assess other person's emotional state.					
39	When anxious or depressed, I purposely engage myself in some physical and constructive tasks such as cleaning my desk, dusting or copying notes.					
40	I like to put motivating objects in my work place.					
41	I do not believe intimate conversation with others can be quick.					
42	I am not concerned about advising and supporting others.					
43	I can recognize my nervousness.					
44	I generally extend help to those in need without expecting anything in return.					
45	I do not know whether I become sad or take things					

	lightly when hurt.					
46	In a gathering, I do not hide my confidence from the person who is nervous or shaky.					
47	I am unable to increase/enhance my energy level when engaged in some uninteresting work.					
48	I am unable to help others manage their emotions.					
49	I acknowledge others work and redirect them.					
50	I feel happy when others appreciate my hard work.					
51	I can calm down myself easily when angry.					
52	I feel more concerned about the reward than the work itself.					
53	I am unable to negotiate and resolve disagreements between people.					
54	I find it difficult to assess the emotional climate of a group.					
55	I can discriminate between my feelings of fear and sorrow.					
56	I am not comfortable with use of new technological devices.					
57	Setback makes me more depressed and de-motivated.					
58	I prefer to work in a group and share ideas rather than be alone and confined to myself.					
59	I do not have the patience to listen to other people's woes.					
60	People often confide in me because of the deep concern I have for them.					
61	I cannot discriminate between my feelings of anger and hatred.					

APPENDIX IX

ATTITUDE SCALE FOR THE STUDENTS

The following statements are pertaining to the Attitude towards IB PYP School. 40 items are given, for which your views are invited. These statements are put under a 5-point scale, ranking from Strongly Agree (SA), Agree (A), Un Decided (UD), Disagree (D) and Strongly Disagree (SD). Please read each item and give your response by putting a tick mark (√) against the appropriate level of satisfaction as you perceive.

	Sr. No.	Statement	SA	A	UD	D	SD
Attitude towards School	1	IB PYP is very interesting					
	2	I like to study in the IB school.					
	3	My teachers are very cooperative and helpful.					
	4	I enjoy IB schooling.					
	5	IB PYP provides lots of learning opportunities					
	6	I like the physical environment of the school.					
	7	I feel safe in the school.					
	8	School encourages me to be creative.					
Attitude towards teaching-learning	9	School projects assigned to me are meaningful and important.					
	10	I enjoy learning through project work.					
	11	I have a choice to decide the way I like to work for projects.					
	12	Learning in a group helps to generate good feelings towards my peers.					
	13	I try to do my best in school.					
	14	The school involves me in the decision making process regarding class activities.					
	15	My classroom has more face to face discussion between teachers and students.					
	16	Teachers identify my learning difficulties.					

	17	School provides more scope to involve myself in sports, clubs and other activities outside of classroom.					
	18	I enjoy the program of Inquiry class.					
	19	I have learned social responsibility in PYP.					
	20	I consider PYP as a joyful learning experience.					
	21	I am made aware of my mistakes in the school.					
	22	I am always appreciated for my creative work in the school.					
	23	I am more concerned about my learning than getting good grades.					
Attitude towards Teachers	24	Teachers always praise the students for their accomplishments					
	25	I am afraid of my teachers.					
	26	My hard work is always rewarded.					
	27	My teachers are always supportive.					
	28	Our teachers are hard task masters.					
	29	I learn discipline from my teachers and develop an inquiring mind.					
	30	My teachers are my role models.					

APPENDIX X

International Baccalaureate School Research Project
DEPARTMENT OF EDUCATIONAL ADMINISTRATION
FACULTY OF EDUCATION AND PSYCHOLOGY
THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA
VADODARA-390002, GUJARAT, INDIA.
Phone: 0091-265-2792631 (O)

SCHOLASTIC TEST

Name of School: _____ **Roll No.:** ____

Name of Student: _____ **Grade: V**

Date: **Time: 30**

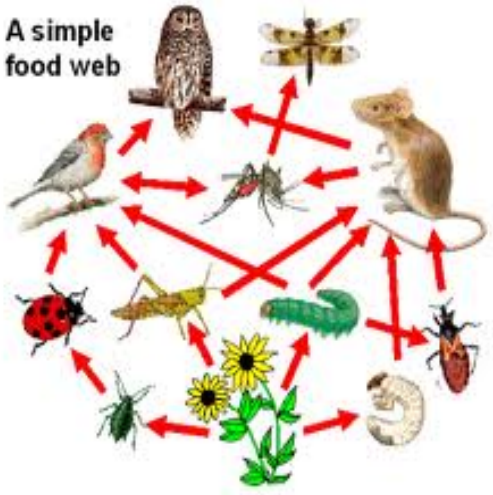
minutes

Instructions: a) Each question carries one mark.

b) In each question there is a box given, write your selected answer inside it. e.g. suppose the answer for Q1 is A then write [A]

c) Q 19 and Q20 are Yes/No type questions. Put a tick mark (√) to indicate the answer.

Q1. **Which one of the following statements is true if, there is no rat in the following food web?**

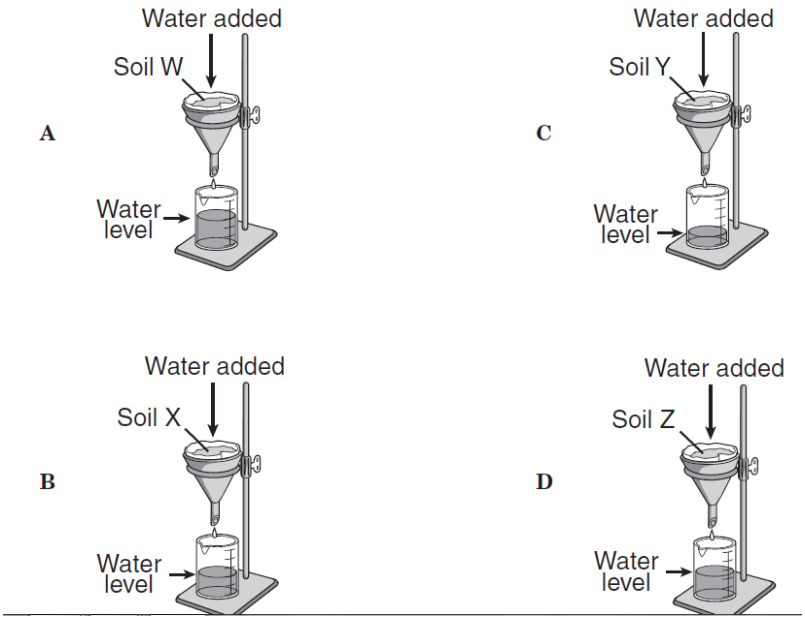


A. Sunflower plants will grow very fast
B. Increase in number of caterpillars.

[ ]

C. Mosquitoes will die due to lack of food.
D. No food will be available for owls

Q2. **Some students arranged four experimental set up as shown below with soil W, X, Y and Z and equal amount of water and soil is put in each funnel.**



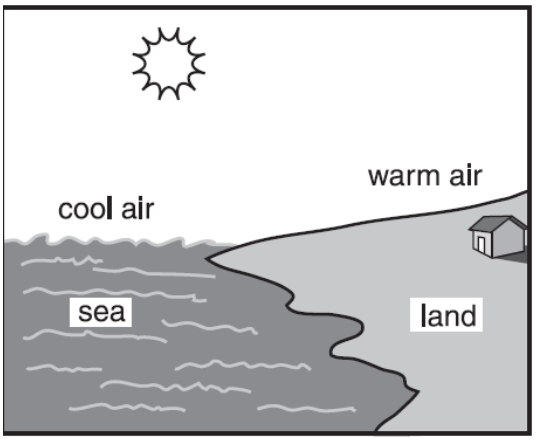
Which of the following is true?

A. Soil W is a sandy soil
B. Soil W is a mixture of soils X,Y,Z
C. Set up A has less soil in the funnel
D. Soil W is good for rice growth.

Q3. **The picture below shows a place where air currents will form due to the uneven heating of Earth.**

In which direction will air current move?

A. straight up above the land
B. from the land towards the sea
C. straight up above the sea
D. from the sea towards the land



Q4. **In which of these ways can volcanoes help build up new land?**

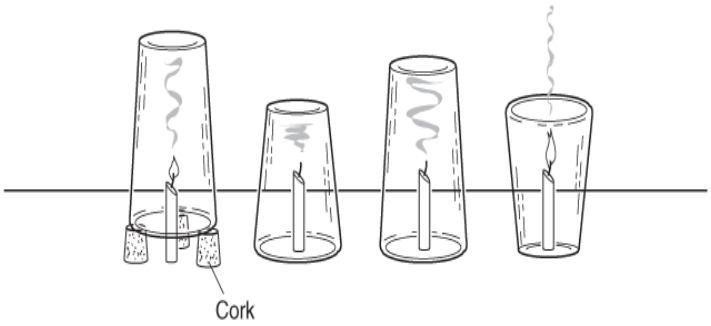
A. By adding heat to Earth's surface
B. By adding gases to the atmosphere
C. By adding lava to Earth's surface
D. By adding water vapor to the atmosphere

Q5. **When a plant kept outside a house was placed inside the house for few days, the leaves withered off. Again when it was kept outside new leaves grew. Which of the following best support the above information?**

A. Plants can learn to stay healthy.
B. Plants can adapt to some changes.
C. Plants can change leaves at any time.
D. Weather changes are brought by the plants.

Q6. **Which of the following statements does the figure support?**

A. Candles cause flame.
B. Corks put out flame.
C. Flame warms glass
D. Burning needs air.

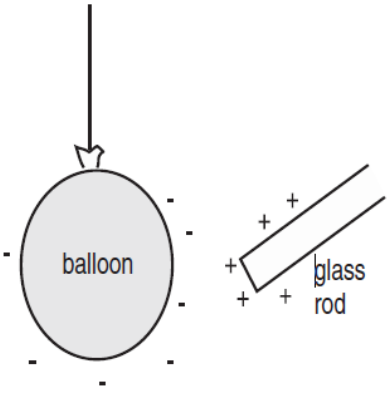


Q7. **Which system involves the functioning of all the three organs given below?**

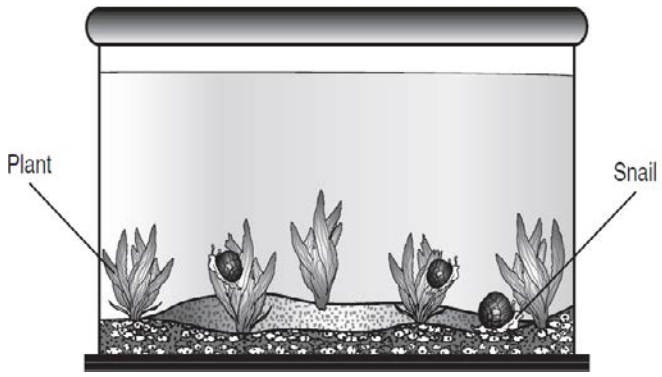
A. Excretory system
B. Reproductive system
C. Digestive system
D. Nervous system

Q8. **In the given figure the balloon has a negative charge and glass rod has a positive charge. What will happen when the glass rod is brought near the balloon?**

A The balloon will be attracted to the rod.
B The balloon will be repelled by the rod.
C The balloon will remain in place.
D The balloon will spin in circles



Q9. **At the beginning of the week, there were 3 snails and 10live plants in the aquarium. The picture below shows the aquarium at the end of the week. Which of the following changes took place during the week?**



A The snails reproduced faster than the plants.
B The plants grew at a faster rate than the snails.
C The snails ate many of the plants.
D The number of plants and snails both decreased.

Q10. **Which of the following, show the effect on the material, the Taj mahal is made of ?**

A. A rock piece containing calcium carbonate dipped in vinegar.
B. Putting a sugar cube in the hot tea.
C. Putting sodium chloride in vinegar
D. Putting white sand in the washing powder solution.

Q11.Three glasses are kept glass 1, glass 2 and glass 3 with equal amount of water and equal amount of sugar added to each of them.

After adding sugar **Glass 1** was cooled, **Glass 2** was heated **and Glass 3** was left undisturbed.

Which glass will have the sweetest water?

A. glass 1
B. glass 2
C. glass 3
D. All the three glasses

Q12. **One example of a character passed from a parent animal to its offspring is**

A. The way one wears the clothes
B. The food that the child likes to eat.
C. The color of the skin.
D. The language that the child speaks.

Q13. **Akshay read that, about 0.35% of forests are being destroyed every year due to deforestation. The increase in deforestation leads to increase in carbon dioxide, which leads to global warming. He plans to reduce the effect of deforestation. Which of the following plan can be followed by him?**

A. Plant 5 trees on his birthday and take care of them.
B. Make a nursery of flowering plants.
C. Throw the fruit seeds in moist soil.
D. All of the above

Q14. **People in India throw away all prepared food in their house and make new food after a solar/lunar eclipse. What is the belief of the people behind following this custom?**

A. During eclipse some powerful sunrays reach the earth.
B. During eclipse some acid falls on food.
C. A demon makes the food stale.
D. Food starts rotting on its own.

Q15. **A student planned to make an electric circuit for a door bell which material he will not use out of the following to complete the electric circuit:**

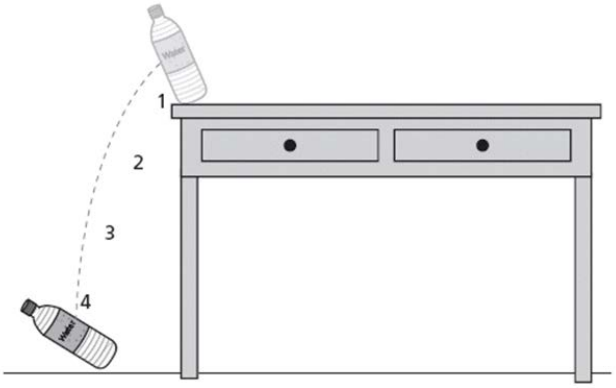
A. Wooden ruler
B. Copper coin
C. Aluminum coil
D. Brass plate.

Q16. **A student wants to sow a plant in a window-box planter. The window selected for the plant is always shaded by a large tree outside the window.**

Which of the following life process of the plant in the window box planterwill be affected by the shade?

A. Transportation of food
B. Photosynthesis
C. Respiration
D. Transportation of water.

Q17.**The water bottle is pushed off from the table. The diagram shows the position of the bottle while falling.**



At which position the bottle has highest potential energy.

A. Position 1
B. Position 2
C. Position 3
D. Position 2 and 3

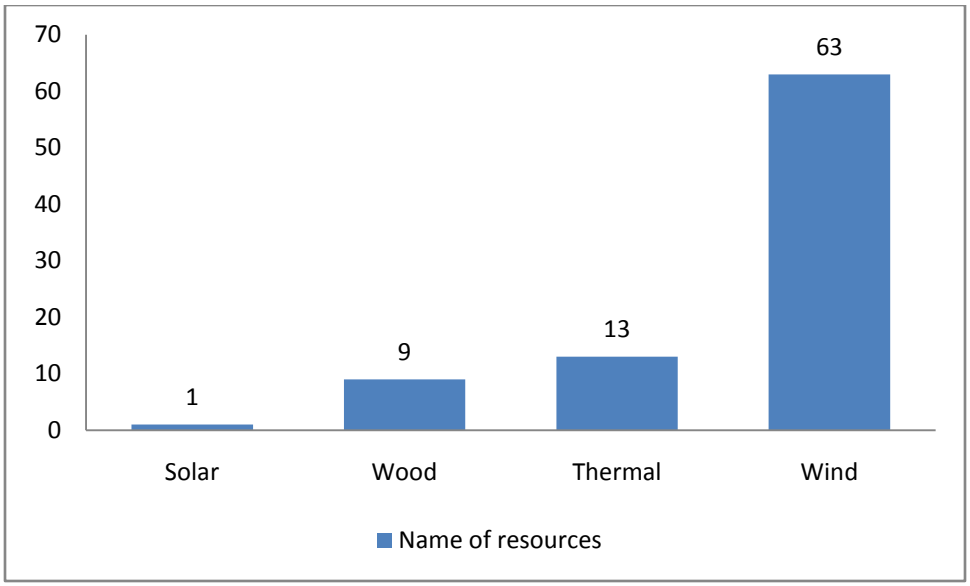
Q18.Read the following incident and answer the following question.

In 1930, Mahatma Gandhi carried out the Dandi march to break the salt law laid down by the British rulers on the Indians. Gandhi collected the seawater in the shallow pits/beds dug in the sand and allowed the water to dry in the sun. After the water dried the salt was left in the pits/beds.

Which is best word to describe the salt formation process carried out by Mahatma Gandhi in the above incident?

A. Conduction
B. Evaporation
C. Precipitation
D. Condensation

Q19. The following graph shows the percentage of electricity generated in the year 2009 using different resources. Put tick mark (√) on Yes/No



i) Maximum energy is generated by the renewable sources Yes/No
ii) Thermal energy is four percent more than the energy generated by wood Yes/No

Q20. Read the text and answer the following questions. Put tick mark (√) on Yes/No

Ozone layer present in our atmosphere protects living organisms on earth from the harmful ultraviolet rays of the sun. If these ultraviolet rays reach the earth it will kill many organisms and will cause disease like cancer in human beings. The ozone layer has been damaged due to polluted gases emitted by the vehicles and the industries**.** The CFCs(chlorofluorocarbons) in these gases are the most harmful particles.

i) The ozone layer in the atmosphere can be protected by reducing air pollution. Yes/No

ii) Human beings get cancer because of the CFCs (chlorofluorocarbons) Yes/No

APPENDIX XI

International Baccalaureate School Research Project
DEPARTMENT OF EDUCATIONAL ADMINISTRATION
FACULTY OF EDUCATION AND PSYCHOLOGY
THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA
VADODARA-390002, GUJARAT, INDIA.
Phone: 0091-265-2792631 (O)

SCHOLASTIC TEST

Name of School: _____ **Roll No.:** ____

Name of Student: _____ **Grade: V**

Date: **Time: 30**

minutes

Instructions: *a) There are totally20 questions.*
b) Each question carries 1 mark.
c) For Q6 has two diagrams. In the box given below each diagram yes/no has to be written. Each part carries half mark.
d)In Q7 two clocks are given. In the box given the time has to be written. Each carry ½ mark.
e)In each question there is a box given, write your selected answer inside it
If answer for Q is 'A' then write **A**

Q-1: Sheetal's teacher gives a short Mathematics test every week. She keeps a record of her marks for each test:

Number of tests	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6
Marks (out of 10)	7	5	7	6	8	9

Find the average of Sheetal's marks

A. 7.5

B. 7

C. 6

D. 5

Q-2: Neha bought a computer of Rs. 32,000After a year she wanted to buy a laptop so she sold it for Rs. 29,550. Find the total amount of loss or profit.

A. profit of Rs.2540

B. loss of Rs. 2500

C.loss of Rs. 2450

D. profit of Rs.2450

Q-3: Abhay told his teacher that he goes for karate classes every Saturday at 6:30 p.m. The teacher told him to tell the time according to 24hour clock. Which out of the following time Abhay might have spoken.

A. 17:30hours

B. 18:30hours

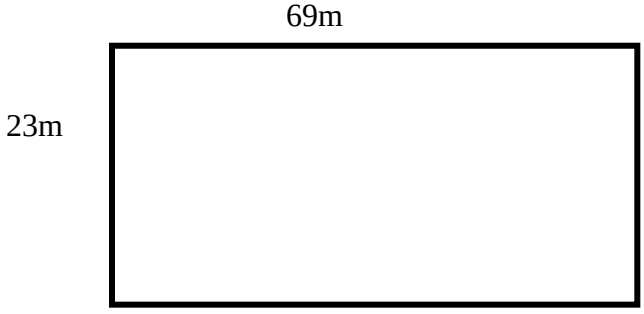
C. 20:30hours

D. 19:30hours

Q-4: A bus has to travel 280 Km in 4 hours. What should be the speed of the bus?

A. 70km/h
B. 35km/h
C. 45km/h
D. 60km/h

Q-5: The following is Mr. Rajesh's farm. He would like to put fertile soil in the farm. Find the area for which he has to buy the fertile soil.

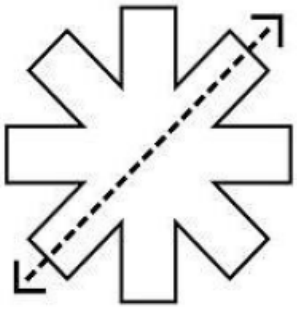


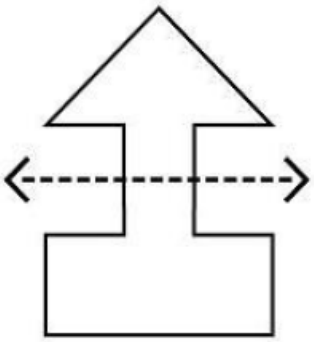
Which of the following will provide the required measurement?

A. $1009m^2$ C. 1587m

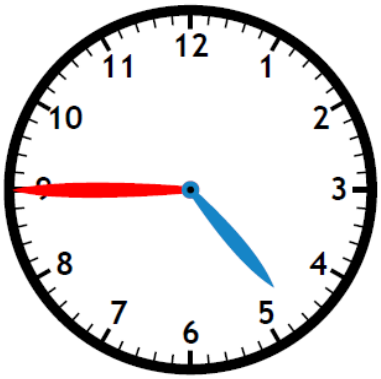
B. $1587m^2$ D. $1500m^2$

Q-6: State whether the dotted line on each shape represents a line of symmetry. Write yes or no in the box given below .





Q7. Write the time shown in each of the clock in the box given below.

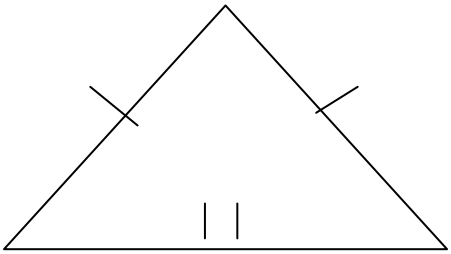


Q8. Out of the following which is true for ΔABC?

A. Scalene

B. Equilateral

C. Isosceles



Q-9: Calculate the simple interest Mr. Manoj has to pay back to the bank if he takes a loan of Rs. 30,000 at a rate of 6% for 2 years?

A. Rs. 3600

B. Rs. 1800

C. Rs. 3650

D. Rs. 1600

Q-10: Rahul ran 4 rounds of a rectangular park of length =5m and breadth=3m. He ran a distance of _____m

A. 15m

B. 16m

C. 46m

D. 64m

Q-11: Radhika brought a small cake and shared it with her sister and brother. She gave $\frac{1}{2}$ to hersister and $\frac{1}{3}$ to her brother. Which of following fraction show the amount of cake that Radhika ate?

A. $\frac{1}{2}$

B. $\frac{1}{4}$

C. $\frac{3}{4}$

D. $\frac{1}{6}$

Q-12: Sania ate 3/4 part of a pudding. What percentage of the pudding is left?

A. 20%

B. 12%

C. 25%

D. 15%

Q-13: Thetotal land area of India is 3,287,263square kilometers. What is this value rounded to the nearest thousand square kilometers?

A. 3,200,000 square kilometers

B. 3,287,000square kilometers

C. 3,287,0square kilometers

D. 3,280,000square kilometers

Q-14: Kunal had with him Rs. 360.50. He paid equal amount of money to two shopkeepers after buying some items from their shop. How much money did he pay to each shopkeeper?

0

A. Rs 180.20

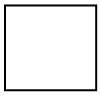
B. Rs 180.25

C. Rs 160.25

D. Rs 150.25

Q-:15 If Seema walks for $5\frac{1}{3}$hours in the morning, learns her lessons for $2\frac{2}{3}$hours and $4\frac{2}{3}$hours spends playing basketball. A rrange the time spent by Seema in their increasing order (least to highest).

A. $5\frac{1}{3}$, $4\frac{2}{3}$, $2\frac{2}{3}$



B. $2\frac{2}{3}$, $4\frac{2}{3}$, $5\frac{1}{3}$

C. $4\frac{2}{3}$, $5\frac{1}{3}$, $2\frac{2}{3}$

D. $2\frac{2}{3}$, $5\frac{1}{3}$, $4\frac{2}{3}$

Q-16: Yash is having Rs. 32300951.49 in his bank; he withdraws Rs. 35000.50 for buying a modern television and Rs. 22000 for buying clothes. How much money is left in his account?

A. Rs.32300012

B. Rs.32243950.99

C. Rs.3245000.99

D. Rs.3125000.50

Q-17: Jagtap had a can with 4.5 lt. of juice. He decided to distribute 80% of the juice among his friends. How many liters of juice he might have distributed among his friends

A. 3.55 lt.

B. 2.67 lt.

C. 3.89 lt.

D. 3.6 lt.

Q-18: Which of these is the number name for 5,005,014?

A. five million, five hundred, fourteen

B. five million, five thousand, fourteen

C. five thousand, five hundred, fourteen

D. five billion, five million, fourteen

Q-19:The classroom is 11 degrees warmer than the playground. It is 35°C inside the classroom. How cold is the playground?

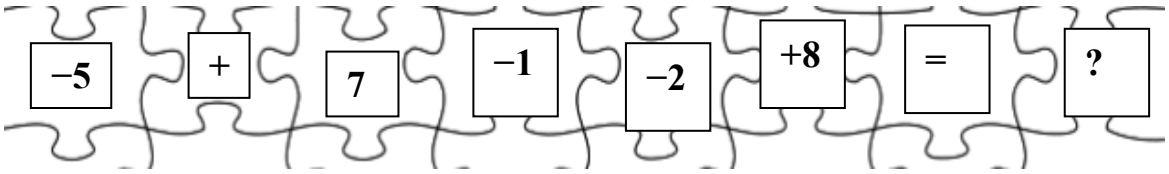
A. 24°C

B. 23°C

C. 26°C

D. 15°C

Q-20: Jevisha was given a few pieces of a jig saw puzzle. She arranged them and found them to be arranged in the following manner. Which of the following numbers will help her complete the puzzle?



A. 8
B. 7
C. 10
D. 3

APPENDIX XII

International Baccalaureate School Research Project
DEPARTMENT OF EDUCATIONAL ADMINISTRATION
FACULTY OF EDUCATION AND PSYCHOLOGY
THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA
VADODARA-390002, GUJARAT, INDIA.
Phone: 0091-265-2792631 (O)

SCHOLASTIC TEST

Name of School: _____ **Roll No.:** ____

Name of Student: _____ **Grade: V**

Date: **Time: 30**

minutes

Instructions: *a) There are totally 4 questions. All are compulsory.*
b) Q1 has 5 items each carrying one mark.
c) Q2 and Q 3 consist of ten parts. Each itemcarries half mark.
d) For Q1 Q2 and Q3.Put the selected answer in the box given.
If answer for Q1(1) is 'b'then write **b**
e) In Q4 a formal letter has been written, about 5 lineswhich is of 5 marks.

Q-1: Read the following passage and answer the questions given below it.

Why is the Camel's Neck Crooked?

As you all know, Emperor Akbar was very impressed with Birbal's wisdom and greatly enjoyed his quick wit. One fine morning Akbar was especially pleased with Birbal, and as a gesture of appreciation, he promised to reward him with valuable and beautiful gifts.

However, many days passed, and still there was no sign of even one gift. Birbal was quite disappointed with the king. Then one day, when Akbar was strolling down the banks of River Yamuna with his ever faithful Birbal at his side, he happened to notice a camel pass by. He asked Birbal why the neck of the camel was crooked. Birbal thought for a second and promptly replied that it might be because the camel might have forgotten to honor a promise. The holy books mention that those who break their word get punished with a crooked neck; perhaps that was the reason for the camel's crooked neck.

Akbar soon realized his folly of making a promise to Birbal for gifts and not honoring it. He was ashamed of himself. As soon as they returned to the palace he immediately gave Birbal his justly deserved reward. As you can see, Birbal always managed to get what he wanted without directly asking for it.

I. The word 'wit' in the first paragraph means

a. Intelligent and humorous communication

b. Cheap jokes ☐

c. Wise quotes.

II. Given below are three gestures of appreciation. T ick the one most appropriate to the passage that you just read.

a. Applauding by clapping.

b. Saluting ☐

c. Giving gifts as a mark of honor.

III. According to Birbal, why is the camel's neck crooked?

a. The camel is not honest.

b. The camel failed to keep its promise. ☐

c. The camel is a part of the group in which people fail to honor their promises.

IV. The word 'folly' in the given paragraph means……

a. Foolish mistake.

b. Forgetful behavior. ☐

c. Lack of understanding.

V. The antonym for the word 'disappointed in the passage is

a. Satisfied

b. Happy ☐

c. Excited

Q-2: Do as directed.

I. Rewrite the sentence using the correct interrogative pronoun instead of the underlined words

The teacher read <u>the letter.</u>

a. Which
b. What
c. How
d. Whose

II. Which of the following conjunction can join these sentences correctly?

I'm not allowed to watch TV. It's too late by the time the TV program iscompleted.

a. but
b. and
c. because
d. nor

III. Choose the most effective transition word to complete the sentence.

Swati had studied for hours …….. she scored well on the test.

a. lastly
b. nevertheless
c. therefore
d. however

IV. Find the subject and verb in the following sentence.

My voice sounds terrible in the morning.

a. sounds, terrible
b. My sounds, voice
c. My voice, sounds
d. sounds, morning

V.Find the sentence that has no capitalization errors.

a. Julius Ceasar ruled the roman empire until he was assassinated.
b. juliusCeasar ruled the Roman empire until he was assassinated
c. Julius Ceasar ruled the Roman Empire until he was assassinated
d. Julius ceasar ruled the roman empire until he was assassinated

VI. Find the verbs in the following sentence

In the future we will not have as much food as we have now.

a. will not have
b. as much
c. will not have, have now
d. will not have, have

VII. Choose the correct adverb for the following sentence

The thief answered the question_____.

a. alone
b. busily
c. truthfully
d. aesthetically

VIII. Which are the adjectives in the following sentences?

Gita is a tall girl. She has beautiful hair.

a. tall
b. tall, beautiful
c. beautiful
d. has beautiful

IX. Which is the correct transformation of the singular sentence into plural.

The thief has been caught by the policeman.

a. The thieves have been caught by policeman.
b. The thieves has been caught by the policemen.
c. The thieves have been caught by the policemen.
d. The thieves have been caught by the policeman.

X. Which of the following passage is written with proper punctuation marks.

a. Long, long ago when the world was new and the animals could not talk clams were the most talkative of all " Did you know, said one clam to the eagle who was eating a fish on the bench that the Raven says he is a much better hunter than you."

b.Long, long ago, when the world was new and the animals could not talk, clams were the most talkative of all."Did you know?" said one clam to the Eagle, "who was eating a fish on the bench" , the Raven says " He is a much better hunter than you."

c .Long ,long ago when the world was new and the animals could not talk, clams were the most talkative of all " Did you know," said one clam to the eagle who was eating a fish on the bench that the Raven says he is a much better hunter than you."

Q3. Fill in the blanks with appropriate verbs, pronouns, nouns, prepositions by selecting the given words.

(could see ,he, discovery, through, are, after, we, experimenting, glow, thought)

Sohan had fractured his arm. When ____went to the hospital, he was made to sit on a chair and rest his arm on a table. Sohan was scared. He _____it was going to hurt but the nurse told him that he would only have to sit in front of a machine which would take the picture of his bone. _____ listening to the nurse he gained courage to take the X-ray. This picture was a shadow picture taken _____a x- ray machine.

X – rays can take picture through cloth, leather and wood and also metal. X- Rays were discovered when Wilhelm Roentgen, a scientist was _____with electricity while he was running the electricity through the glass tube in which there was a tiny bit of special gas, he saw a strange _____of light on a screen nearby. When he put his hand between the tube and the screen, he _____the bones of his hand in a shadow picture on the screen. He didn't know what the strange light was. He called it X- rays. Later, his_____madehim famous.

Today, X-rays are widely used in hospitals but they _____also used in factories and buildings. We can check the parts of automobiles, airplanes, radios and many other things. _____can also find out whether there are pipes and wires behind the walls of old buildings.

Q4. **You visited Vadodara Central Mall, near Rhino circle, Alkapuri, Vadodara with your mother on a Saturday evening and saw lot of trash on the floor. Write a letter to the manager of the mall to inform him/her about the unclean floor.**

(Write a short letter of 5 lines)

APPENDIX XIII

General Profile of the Parents

(Please tick mark (√) wherever applicable)

- **Name of Parents:**
  - **Father:** _____
  - **Mother:** _____
- **Educational Qualifications:**

  Less than Graduation ☐ Graduation ☐

  Post-Graduation ☐ Other (specify) _____
- **Occupation:**

Occupation	**Govt. Service**	**Private Service**	**Business**	**Other** *(Please specify)*
Father				
Mother				

- **Type of Family:** Joint ☐ Nuclear ☐
- **Monthly Income of Family:**

Income Range *(in Rs.)*	**≤ 25,000**	**26,000-50,000**	**51,000-99,000**	**≥ 1,00,000**
Father				
Mother				
Other Member				
Total				

- **Number of Siblings:**

  No sibling ☐ 1 ☐

  2 ☐ More than 2 ☐
- **Age of Siblings:**

Age of Siblings *(in years)*	**1-3**	**4-6**	**7-9**	**>9**
Boys				
Girls				

- **Schooling of Siblings:**

Schooling of	**IB**	**International**	**Central**	**State**

Siblings *(in type of school)*				
Boys				
Girls				

PERCEPTION SCALE FOR PARENTS FOR THEIR INVOLVEMENT IN IB PYP

The following Perception Scale consists of 30 items regarding the PA, PTA and Parents Involvement in IB PYP. The scale is ranging from Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD). Kindly read the each item and indicate your response by a tick mark (√).

Sr. No.	Statement	SA	A	UD	D	DA
❑ **Parents Association (PA)**						
1	There is PA in the IB PYP.					
2	I am a member of PA.					
3	PA meeting is held every month.					
4	I always attend PA meetings.					
5	I consider PA meetings very informative.					
❑ **Parent Teachers Association (PTA)**						
6	There is a PTA in the IB PYP.					
7	I am a member of PTA.					
8	PTA meeting is held every month.					
9	I often attend PTA meetings.					
10	Most of the parents attend the PTA meetings.					
11	Most of the teachers attend the PTA meetings.					
12	We receive guidance for helping our ward in PTA meetings.					
13	PTA is given opportunity to contribute to school programs.					
14	PTA invites parents as resource persons.					
15	PTA arranges/manages necessary materials and resources required for IB PYP.					
16	PTA arranges/manages necessary financial resources required for IB PYP.					
17	There is an active role of PTA in decision making of IB PYP.					
❑ **Parental Involvement in IB PYP**						
18	IB PYP regularly invites parents for discussing					

	the progress of our ward.					
19	IB PYP provides freedom to parents to visit the school to know the wards' profile.					
20	IB PYP provides freedom to parents to visit the school to know/monitor wards' academic progress.					
21	IB PYP provides freedom to parents to visit the school for discussing wards' behaviour related problems.					
22	IB PYP conducts induction programmes for parents related to curriculum and its transaction.					
23	IB PYP conducts us induction programmes for parents related to the evaluation and assessment.					
24	IB PYP provides academic guidance to parents for helping our wards.					
25	I am aware about the IB PYP.					
26	I am aware about the objectives of IB PYP.					
27	I am satisfied with the IB PYP.					
28	I actively participate in school programs.					
29	I am satisfied with the academic progress of my child.					
30	IB PYP teachers are professionally competent.					

❑ **Following are some open ended questions regarding PA, PTA and IB PYP. Give your response to every question:**

1) What is/are the reason/s for attending PA or PTA?

_____

_____

2) What type of problems are you facing regarding the facilities, fees, curriculum & its transaction, child's progress, and any other?

- Facilities: _____

  _____

  _____

- Fees: _____

  _____

  _____

- Curriculum and its transaction: _____

  _____

  _____

- Child's progress: _____

  _____

  _____

- Any other: _____

  _____

  _____

  _____

3) What is/are the reason/s for not attending PA or PTA?

_____

_____

_____

4) What are the agendas for PA meetings?

_____

_____

_____

5) What are the agendas for PTA meetings?

_____

_____

_____

6) What is/are the role/s of PA in decision making process regarding the IB PYP?

_____

_____

_____

7) What is/are the role/s of PTA in decision making process regarding the IB PYP?

_____

_____

_____

8) What are your expectations from the IB PYP?

_____

_____

_____

9) What, according to you are the major issues & challenge/s of the IB PYP in India?

_____

_____

_____

10) What, according to you, needs to be done to strengthen PYP?

_____

_____

_____

APPENDIX XIV

PERCEPTION SCALE FOR PARENTS ASPIRATIONS AND PERCEPTIONS ON IB PYP

The following Perception Scale consists of 20 items regarding the Parents Aspiration and Perceptions on IB PYP. The scale is ranging from Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (D), Strongly Disagree (SD). Kindly read each item and indicate your response by a tick mark (√).

Sr. No.	Statement	SA	A	UD	D	DA
❑ **General Perception About the IB PYP Program**						
1	I am aware about the objectives of IB PYP.					
2	IB PYP provides quality education.					
3	IB PYP provides scope to make child more advanced.					
4	Location of IB PYP school is appropriate.					
5	IB PYP Admission process is fair and unbiased.					
6	IB PYP fees are appropriate as per the activities and facilities provided.					
7	I am satisfied with the progress of our child in IB PYP.					
8	I regularly visit IB school for monitoring my wards' profile & progress.					
❑ **Perception About the IB PYP Curriculum**						
9	I am aware about the curriculum pattern followed by the IB PYP.					
10	IB PYP curriculum provides opportunity to our child to be familiar with the local and global issues.					
11	IB PYP teachers are aware of our child's positive as well as limitations and teach accordingly.					
12	Our child's involvement in learning is high due to IB PYP curriculum pattern.					
13	I am satisfied with the IB PYP curriculum pattern.					
14	I am satisfied with the activities provided for students in IB PYP.					
15	IB PYP curriculum has a global significance.					
16	IB PYP curriculum suites children with different cultures.					

17	IB PYP teaching is based on child's needs, interest & capabilities.					
18	IB PYP curriculum provides opportunity to children to explore the commonalities of human experiences.					
19	Our child acquires essential knowledge & skills through the IB PYP curriculum.					

❑ **Following are some open ended questions. Give response to every question:**

1) Are you facing any problem/s because of the location of the IB School?

Yes ☐ No ☐

- If yes, mention the problem/s and your need/solution for your problem.

_____

_____

2) What is/are the major reason/s for sending your child in IB School?

_____

_____

❑ If you wish to comment on any of the aspects of IB PYP, curriculum, assessment, teachers or any other aspect not covered above, do write in the space given below:

_____

_____

_____

_____

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