

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

The study on the curriculum management of International Baccalaureate Primary Years Programme demanded a rigorous review to develop a conceptual understanding of various aspects of curriculum management and IB PYP curriculum and pedagogy. Review is a key element that helps rationalize the study, analyze the trends, find out the gaps and draw implications for the present study. A review of related studies was conducted to explore the nature of studies conducted in curriculum management and IB- Curriculum development, curriculum implementation and evaluation, inquiry-based teaching-learning, transdisciplinary curriculum, international mindedness and pedagogical leadership. The literature review justified the need to study curriculum management in IB PYP schools in India. The review sources were Libraries, the online repository of IB, and online databases like ProQuest, ERIC, Shodhganga, JSTOR and Google Scholar. The reviews are taken from books, journals, thesis and trend reports.

Organization of Review of related research

The review of related literature contains studies both from India and abroad. The review was conducted to identify the key areas to be studied under curriculum management in IB schools and gave insights on research methodology and tools that can be employed for the present study. The review is organized under concepts where both studies conducted in India and abroad are included.

- Review of research studies on school curriculum (curriculum development, transaction and evaluation)
- Review of research studies on transdisciplinary curriculum
- Review of research studies on teaching-learning (inquiry-based teaching-learning, teachers' attributes)
- Review of research studies on assessment practices at the primary level
- Review of research studies on International mindedness- Learner Profile
- Review of research studies on pedagogical leadership
- Review of research studies on IB programs

2.2 REVIEW OF RESEARCH STUDIES ON SCHOOL CURRICULUM

The curriculum is one of the old topics of research. A variety of studies are carried out across the world with various purposes. The researcher extensively reviewed curriculum development, implementation and evaluation for the present study, focusing on curriculum studies at the primary level and specific IB PYP curriculum. The review helped the researcher to consider the main areas for the study of curriculum management and also helped in identifying the relevant methodology and tools.

Butler (2017) investigated the International Baccalaureate Primary Years Program curriculum development for standards alignment. This study was conducted in the United States, with an increasing trend of public schools adopting the IB curriculum. This project aimed to develop a guide for educators that outlines the steps to take when designing new standards-aligned IB units. This research identified essential steps and procedures that the curriculum developers can follow at the school level to align with the state's standards. The significant steps involved in curriculum alignment are - unpacking and mapping the standards; creating a unit's central idea, lines of inquiry, and essential questions; authentic assessments; daily instruction and inquiry-based instructional strategies; and project tuning sessions. Collaborative planning was the critical element in the curriculum development process in the PYP.

Meleta & Zhang (2017) compared the senior secondary school mathematics curricula development process in Ethiopia and Australia. The study was investigated qualitatively with document analysis and semi-structured interview research methods. The study was conducted based on four themes needs assessment, developing/writing the curriculum, implementation, and monitoring and evaluation. The study revealed both similarities and differences. The considerable differences in the senior secondary school mathematics curriculum development process are (1) emphasis given to international research results and contemporary issues on mathematics education as inputs for curriculum development, (2) the underlying principle of content standard organizations, (3) trialling the curriculum before implementation initiated, and (4) monitoring and evaluation strategies. Even though substantial differences exist, the similarities are (1) conducting needs assessment and (2) adopting the constructivist approach.

Phaeton & Stears (2017) explored the alignment of the intended, implemented and attained curriculum through the lens of the teachers. The study employed case study methodology with purposive sampling and used document analysis, questionnaires and interviews for data collection. The findings show misalignment between the intended and implemented curriculum

caused by teachers' misinterpretation of the intended curriculum. Teachers lacked knowledge of Science Process Skills and could not interpret them from the curriculum documents. They interpreted the curriculum through the examinations and were reluctant to engage with it to understand the objectives for practical work. The poor design of the curriculum contributed to this reluctance.

Kushner et al. (2015) evaluated the International Baccalaureate Primary Years Program in Aotearoa, New Zealand. The objective was to evaluate the IB PYP schools in New Zealand in the context of the New Zealand curriculum. Case studies were conducted in two schools. Document analysis, classroom observations, interviews with teachers, principals and students, and workshops were conducted to collect and compare the schools' curriculum innovations and whole-school approach. The findings show high coherence between the PYP and New Zealand curricula. Schools making the transition to IB accredited status found the innovatory process challenging.

Kamble (2015) compared the curriculum design, transaction, and evaluation strategies among Maharashtra, Goa, and Gujarat State Secondary levels. The study's objectives were to analyze and compare the curricula of these states concerning the core elements, objectives of the curriculum, and teaching-learning methodologies and to compare the formative evaluation strategies. A mixed method design- the convergent parallel design was adopted. Document analysis, questionnaires and semi-structured interviews were used for data collection. The findings were that all the states used the philosophy of learning by doing, and Goa adopted the NCERT syllabus. Hence they are in coherence with the national syllabus, but Maharashtra has their syllabus and objectives. Most schools in all the states refer only to textbooks for preparation, and teachers use ICT and other media to transact the curriculum. Only a few per cent of teachers use constructive methods.

Gray et al. (2014) examined the revision of curricula in jurisdictions, regions, countries, and the world. The IBO context is also considered along with the other national curricula. Thirteen countries were selected purposively for the study. Government documents, books, and articles were collected to study the aims and purposes of the schools' curricula and their management for delivery and assessment. The findings are as follows: the curriculum review cycles at the national level are unplanned and dependent on the political cycle, and as a response to a particular problem, on the other hand, the IBO reviews the curriculum once in seven years. Most of the national education is assessment driven and is influenced by external tests such as

PISA. The IBO curriculum is aimed at university preparation rather than inter or intra-country comparisons.

Faas (2014) studied the curriculum alignment of the IB DP between the national system of Switzerland. The study examined the alignment of the IB DP curriculum with the Switzerland curriculum regarding content, cognitive demand and philosophical underpinning. It examined the non-scholastic attributes mentioned in IB DP and Swiss curriculum documents. A mixed methodology was adopted for the study, including document analysis and surveys conducted to study curriculum enactment. The major findings were that there was high alignment in the natural sciences curriculum but limited alignment in the Spanish language. The curricula in Switzerland emerged from local and national roots compared to the international and global approach in IB DP schools.

Das (2013) conducted an exploratory study on constructing a need-based curriculum for primary education in Assam. The study's objectives were: to compare the NCERT, IB, and SCERT Assam curricula, to identify the learner's needs at the primary level, to develop the syllabus on social study for class V and to identify the problems for implementing the constructed syllabus. The study adopted both quantitative and qualitative methods. Documents analysis was used majorly. Questionnaires were used to get the opinions of the teachers. The significant findings are: that the learner's needs in the context were identified, and many teachers found it challenging to complete the syllabus and were in agreement to develop a child-centric textbook.

Sopa (2013) studied the participation of primary school teachers in curriculum development in the context of the sufficiency economy philosophy. A descriptive method was employed for the study. The survey was conducted using a Likert scale to determine teachers' level of participation in curriculum development. The data were analyzed using frequency and percentages. The study's significant finding was that the teachers' participation in school curriculum development was moderate.

Lodh (2011) studies the science curriculum of secondary schools in Tripura. The objectives were to study the curriculum development and implementation process and the problems in implementing the science curriculum. A survey was adopted, and questionnaires were used for the study. The findings reveal a gap between the planning and implementation of the curriculum in TBSE. It was found that the processes of development of the science curriculum of TBSE and the NCERT-based CBSE were similar in character but different in perspective,

particularly in their implications for how these were to be achieved. The comparative analysis was also relevant that there was close concurrence in the emphasis on work experience and vocational skills in the curriculum specified by the TBSE and CBSE. Most teachers considered that the Tripura Board of Secondary Education prescribed syllabus and secondary curriculum were not as standard as the National curriculum.

Roy (2009) evaluated the curriculum for primary education in Tripura. Document analysis was the major method used for the study. The national and state documents, including textbooks and the teacher's handbook, were considered. A Questionnaire, a Problem Checklist for Teachers, was used to collect data for the survey from the schools. It was observed that there was a contextual gap between the framing of the objectives for primary education by NCERT and CSC. The language in the textbooks of CSC has spoken language, which led to confusion due to the lack of technical words and spelling mistakes.

Lauridsen (2003) explored the teachers' perspectives and practices of curriculum development in a school context in the United States. This study utilized a qualitative approach implemented through an interpretive/constructivist paradigm. Teachers' perceptions of the curriculum development process were explored through interviews, participant observations and document analysis. The study explored the curriculum development process's technical and affective aspects. It was found that external and internal factors influence curriculum development. Teachers identified the collaborative process as an essential element in curriculum development where team members engaged in negotiation and deliberation. The curriculum development process includes several steps that are not often linear or sequential. Finally, teachers perceived themselves as a bridge between other teachers and state standards and engaging in curriculum development created a sense of ownership and investment in the curriculum developed.

The above review showed that collaboration was the key element for effective curriculum development and alignment (Lauridsen, 2003; Phaeton & Stears, 2017; Butler, 2017). The study of curriculum development, alignment/ evaluation involved the investigation of educational philosophy, curricular objectives, teaching-learning process and evaluation practices. Studies demonstrated the influence of external and internal factors in curriculum development where the external factors – parental expectation and national/state standards were predominant. Also, the study (Gray et al., 2014) indicated that national education (in several countries) is driven by standardized national assessments that PISA influences.

The curriculum development process generally involves a series of steps and procedures involving various stakeholders at varying degrees. Teachers were identified as essential stakeholders in curriculum development at the school level (Sopa, 2013; Lauridsen, 2003) as they brought practical experience and developed a sense of ownership. In India, textbooks were identified as the most important aspect of curriculum development and transaction, where most teachers relied solely on textbooks for teaching learning. Some studies (Roy, 2009; Phaeton & Stears, 2017) evidenced the misalignment between the intended and implemented curriculum and suggested that the lack of teachers' knowledge and misinterpretation of the curriculum led to the incongruence.

The study showed that most countries' curriculum development depends on political cycles; however, the IBO regularly reviews its curriculum/programs once in seven years. Studies conducted on IB programs in different countries on curriculum alignment showed a strong alignment of the IB curriculum with the national curriculum (Kushner et al., 2015; Faas, 2014). Further, (Butler, 2017) identified specific steps to design the IB PYP curriculum for alignment with the state standards.

2.3 REVIEW OF RESEARCH STUDIES ON TRANSDISCIPLINARY CURRICULUM

Gurkan (2021) examined teachers' positive and negative experiences through a model for designing a transdisciplinary integrated curriculum within the framework of IB-PYP. The study adopted a multiple-case approach. The study was carried out with 50 teachers in the IBEC teacher curriculum at a university in Turkey. The data were collected with a researcher diary, focus group interviews and reflective writings, and analyzed through content analysis. It was found that the IB PYP curriculum framework helped the teachers to organise their thoughts and content to be included in the curriculum. Most teachers reported that collaboration and cooperation helped them develop the transdisciplinary curriculum. The study also revealed that the teachers' previous experiences and personal attributes influence their practices in designing an integrated curriculum like the IB PYP transdisciplinary curriculum.

Drake & Savage (2016) undertook a phenomenological and explored the lived experiences of 24 PYP educators to understand what such a curriculum looks like in practice. Three main themes were identified and explored: participants' understandings of transdisciplinary teaching and learning and the freedom a transdisciplinary framework can bring. Second, it examines participants' thoughts on what is required to implement a transdisciplinary curriculum successfully. The final theme discusses participants' beliefs about the success of a

transdisciplinary curriculum. In general, participants appreciated the transdisciplinary of the program. Concerns revolved around implementation issues.

Drake et al. (2015) explored the Policy and Practice of Transdisciplinary in the IB PYP Programme. The broad research questions were 1) How did the participants in the study understand, define, plan for and approach transdisciplinary? 2) What barriers did participants identify hindered their ability to deliver a transdisciplinary program? 3) What supports were provided to help participants deliver a transdisciplinary program? The study utilized an empirical phenomenological research design. Data collection consisted of in-depth interviews. All the participants expressed that a framework provided freedom, Personal understanding of the framework, and Concept confusion. The second central theme that emerged from the participant's responses was 'get on board for the PYP to function effectively. All the participants stated that the PYP benefited students and aided them in "their learning journey."

The practitioners in IB PYP had a positive perspective on the transdisciplinary curriculum and believed that it facilitated students for real-life learning. The framework provided by IB was viewed as the beneficiary by the teachers as it helped them align their teaching philosophy and practices with the IB. It was found that teachers interpreted the transdisciplinary curriculum based on their personal beliefs, attributes and professional experiences and implemented it in the classroom. Thus the implementation of transdisciplinary teaching learning in PYP highly depends on the teachers' understanding and competency.

2.4 REVIEW OF RESEARCH STUDIES ON TEACHING-LEARNING

Teaching-learning is the core element which influences the students learning outcomes. There are various theories and approaches to teaching and learning. The one that has picked up hugely in the educational landscape is constructivism and inquiry-based approach to teaching and learning. The review in this area is seminal as it gives insights into the relevant and interconnected components in the study of curriculum implementation in the IB PYP context. Review is conducted in teaching and learning with a focus on inquiry-based learning and its effects and teacher's attributes.

Kumari (2016) studied the inquiry-based teaching model's impact on secondary school students' social science academic achievement. A quantitative study was adopted for the study. Using the CBSE curriculum, data was obtained through inquiry-based social science teaching versus traditional social science teaching in 9th-class students of different schools belonging to rural and urban areas. Results of data analysis showed that the students receiving instruction

through inquiry-based teaching showed significantly more improvement over the traditional teaching model.

Aydogdu & Selanik (2016) conducted a study to determine the teacher characteristics that support Constructivist Learning environments. Convenient sampling was employed. The data was collected through the Constructivist Learning Environment Questionnaire (CLEQ) and a modified Draw a Classroom Teacher Test Checklist (DACTT-C) version. The results of the study showed that the gender of primary school teachers was not a factor in determining the constructivist characteristics of the primary school, and less experienced primary school teachers were more willing to use constructivist principles in their primary school.

Ayaz & Sekerci (2015) conducted a meta-analysis study to determine the effects of constructivist teaching on students' academic achievement. A total of 53 studies were reviewed about the effects of constructivist teaching on students' academic achievement. A meta-analysis study determined that the constructivist learning approach, compared to traditional teaching methods, positively affects the student's academic achievement. Using the random effects model with a 0.910 and 1.402 interval of confidence, the overall effect of the constructivist learning approach on the academic achievement of students is found to be 1.156 (95% CI, SE=0.125). 50 of the 53 studies included in the study have positive results, though only 3 show adverse effects.

Nair (2014) studied the influence of the constructivist approach in science teaching on students' process skills at the primary level. The objectives of the study are: to determine the perception of primary school teachers on their current level of the application of the Constructivist Approach in their teaching and to compare the effectiveness of Constructivist Approach based instruction with the Present Method of Teaching on various cognitive and metacognitive skills. A survey was adopted for the study. The findings are that primary school teachers perceive that they are applying the Constructivist Approach in teaching at a meagre level. The Science Process Skills of primary school students taught using Constructivist Approach based instruction is higher than those taught through the Present Method of Teaching.

Alford et al. (2013) studied classroom instruction and students' behaviour in Texas IB PYP schools. Three observational instruments were developed for this study: The Classroom Observation Schedule for IB Schools (COS-IBS), the Teacher Roles Observation Schedule for IB Schools (TROS-IBS), and the Overall Observation of Features for the International Baccalaureate Programme (OFIBP). The study reported the following findings: IB students, to

some extent, initiated and assumed responsibility for experiences, discussions, and activities; connected ideas and concepts; and participated in learner-centred activities. The teachers at the IB PYP schools explored with their students acted as coaches/facilitators, and integrated feedback and assessment into the instructional cycle. Taken as a whole, it was clear that many affective domain factors were evident in the IB schools.

Bergeron & Dean (2013) conducted a study for identifying, measuring and characterizing pedagogical attributes, perspectives, and beliefs of IB teacher professionals. The research project aims to provide empirically-grounded insights into what constitutes 'The International Baccalaureate Teacher Professional in both theory and practice. A mixed methods design was employed. The research used an online survey, focus groups with IB teachers, and a document review to address the research questions. The attributes, perspectives, and beliefs of IB teachers identified in this study are well documented in the IB literature and clearly expressed by the IB teachers. As evidenced by the TPI results, the document analysis, and focus groups, the IB teacher community tended to embrace the ideas of social responsibility and international mindedness more than the non-IB community.

Coppersmith (2013) studied teachers' perceptions and practice of inquiry in an International Baccalaureate language immersion elementary setting. In a mixed-methods case study, the author used classroom and professional development observations, interviews and curricular analysis to investigate teacher perceptions of inquiry-based teaching and learning. The study occurred in a language immersion school carrying out a Primary Years inquiry programme. Findings from 29 kindergarten-grade three teachers and three school administrators suggest a continual effort to develop and apply inquiry standards in teaching and curriculum. There was a difference in the perception of inquiry by the teachers.

Getchell (2010) studied the effects of the International Baccalaureate Primary Years Programme on teacher philosophy, perceptions of efficacy, and outlook on education. One of the objectives was to determine whether participation in training for and teaching the International Baccalaureate Primary Years Programme influences teachers' views regarding the philosophy of education. Data was collected through a survey, and the data were triangulated using focus group discussions for teachers. The study revealed that teachers with more experience, who are older, and who have higher levels of training responded most favourably to all the questions. In addition, support staff and specialist teachers reported a statistically significant increase in their excitement for teaching compared to regular classroom teachers.

Hutchings (2010) studied effective teaching practices and teacher efficacy beliefs of International Baccalaureate Middle Years Programme teachers. The main objective was to study the significant difference between the IB MYP teachers and traditional middle school teachers based on the teachers' characteristics of effective classroom management and organizational skills, to study the significant difference between the IB MYP teachers and traditional middle school teacher based on the behaviour of students on selected personal disposition in the classroom. This was a quantitative study, and a stratified random sampling technique was adopted. Stronge and Tucker's (2003) Teacher Effectiveness Behavior Scale and Tschannen-Moran & Hoy's (2001) Teachers' Sense of Efficacy Scale were used for the study. The findings reveal a significant difference between the teachers in IB MYP and teachers in traditional middle schools regarding effective classroom management and organizational skills. There was a significant difference between the students' behaviour of some personal dispositions in the classroom.

Twigg (2010) investigated the role of personal and professional attributes of teaching and learning which teachers have developed and practised, about the dispositions, values, beliefs and knowledge that may assist them in inquiry-based teaching, specifically in the implementation of the International Baccalaureate (IB) Primary Years Programme (PYP). The study used narrative analysis to explore the teachers' practices, values and beliefs for inquiry teaching and learning. The findings revealed that teachers with high personal expectations reflected in the program's organization, deliverance and assessment played an essential role in transforming their practice from traditional didactic methodologies to inquiry-based teaching and learning pedagogies. Other attributes like reflective practices, challenge seeker and a positive personality helped the teacher adopt inquiry-based teaching in PYP.

Studies showed the positive impact of inquiry-based teaching-learning on student skills and achievement at the primary level (Kumari, 2016); Ayaz & Sekerci, 2015; Nair, 2014). Coppersmith (2013), in her study, revealed that inquiry learning was dynamic as opposed to traditional didactic teaching, and inquiry can happen in various ways at different times of the day or year. Alford et al. (2013) found that most students in IB PYP were engaged in learner-centric activities in the classrooms.

Teachers were found to be the key person in developing the culture of inquiry learning in classrooms. New teachers were willing to adopt inquiry approaches (Aydogdu & Selanik, 2016). On the other hand (Getchell, 2010) found that teachers with more experience and older

teachers were highly favourable for inquiry practices in IB. A study (Hutchings, 2010) revealed that the pedagogical practices of IB teachers differed from non-IB teachers, where IB teachers embraced international mindedness and social responsibilities as teachers (Bergeron & Dean, 2013). It was seen that teachers in IB acted as facilitators (Alford et al., 2013), and their positive personalities, reflective practices and challenge-seeker attitudes helped them perform better in the IB context (Twigg, 2010).

Collaborative planning among teachers and teachers and students was identified as a critical element in inquiry-based teaching practices. The most highlighted challenges for implementing inquiry-based teaching-learning are lack of time and resources and teaching abstract ideas/concepts at the primary level.

2.5 REVIEW OF RESEARCH STUDIES ON ASSESSMENT PRACTICES AT THE PRIMARY LEVEL

Trivedi (2015) conducted a comparative study of admission and evaluation procedures of CBSE, GSEB, ICSE and IB Secondary schools. Both qualitative and quantitative methods are used in the study. A questionnaire and interview schedule were used to collect the data related to the admission and evaluation process. It was found that the schools affiliated with GSEB follow school-based comprehensive evaluation. CBSE and ICSE follow continuous comprehensive evaluation, and there are board exams at the terminal level. There are no Board examinations in IB Middle Year Programme. Instead, classroom teachers design their examinations. The assessment is continuous, and there is the involvement of parents and teachers in the process of assessments; the assessments consist of open-ended, problem-solving activities, investigations, organized debates, hands-on experimentations, analysis and reflection of students. It was found that CBSE, GSEB, ICSE, and IB schools vary regarding the grading system in evaluating students.

Toe et al. (2015) studied the assessment of student development and learning in IB PYP Schools. This project aimed to investigate how IB PYP World Schools define the purpose of educational assessment in their assessment policies and practices. Surveys were conducted along with this interview; focus group interviews were also conducted to gather the data. Document analysis was done to analyze the assessment policy of the school. It was found from the research that the assessment in IB PYP was holistic, comprised of both formative and summative assessments adopting a wide range of assessment strategies. However, most

teachers found it difficult to conceptualize the progress of learner profile attributes as no continuum was available for guidance.

Studies found that the student evaluation in IB was holistic and continuous and involved various approaches and tools for assessment. The assessments in IB were designed by the teachers and also involved parents. It was seen that teachers found it challenging to assess IB learner profile attributes at different age groups.

2.6 REVIEW OF RESEARCH STUDIES ON INTERNATIONAL MINDEDNESS- LEARNER PROFILE

Poole (2017) explored how IB Learner Profile is interpreted and implemented in an internationalized school in China. The study adopted a case study methodology where extensive observation and interviews were used for data collection. The findings challenged the view that the Profile exerts a regulatory force on teachers' behaviour by showing that Sophie, one of the teachers in the school, not only reshaped the Profile according to her beliefs about teaching and learning but also resisted what she perceived to be underlying patriarchal and westernizing discourses. The findings suggest that the notion of a regulatory discourse of Learner profile implementation should focus on both the Profile as text and as a lived profile.

Hacking et al. (2016) examined how IB schools conceptualize, develop, assess and evaluate international Mindedness (IM) and aimed to understand related challenges and problems. This study adopted a case study approach to address the research problem. The study used a multimethod approach that utilized qualitative tools, including interviews, focus groups, classroom observation, online surveys and the collection of documents and artefacts to gain various perspectives from leadership, teachers, students and parents at each school. The study revealed that although fuzzy, stakeholders' conceptions of international mindedness converged on three philosophies. First, IM was viewed as relational, that it is about reaching out to how one would perceive and interact with others from diverse cultures and then it becomes interpersonal. Mostly, IM was seen as a process or a journey that cannot be confined to a fixed definition. The study presented several pieces of evidence on the practice of IM in the school. Finally, the study illuminated the tensions in realizing IM as an attribute to be acquired by students and educational philosophy for schools, exemplified by the diversity and impermanence of the school community and the expectation of the local and national culture.

Wells (2016) examined to what extent IB Learner Profile was perceived to develop international-mindedness among students in MYP and DP. The study used a questionnaire and

semi-structured interviews to collect relevant data. The findings suggested that students had varying degrees of command over the attributes and tended to focus on the ones they were less proficient. The findings revealed that the attributes of open-mindedness and communication were perceived to be most relevant in developing international-mindedness among students. Further, it was found that students believed that the attributes are developed partly at school and by themselves and their parents.

Jones (2014) studied the teachers' perceptions of implementing the International Baccalaureate Learner Profile. The study investigated the extent to which the learner profile is implemented in three levels: classroom practice, assessment and reporting. A cross-sectional survey was adopted for the study, and descriptive statistical analysis was used for the data analysis. The significant findings are that these attributes are being implemented in a limited fashion in International Baccalaureate schools. Additionally, it showed that teachers were most comfortable implementing the International Baccalaureate Learner Profile attributes of being Principled.

Rizvi et al. (2014) investigated the implementation of the IB Learner Profile in diploma programmes across three countries with different cultural traditions- India, Hong Kong and Australia. The study used teacher surveys, qualitative interviews, focus groups, and document analysis to examine how LP was interpreted and adapted to cultural contexts. The findings were drawn from the teachers' and students' perspectives on LP. It was found that students had a positive perspective on LP and found it an important aspect of their schooling experience. Some expressed that LP is not firmly embedded in the DP academically. Also, the findings suggested that several students were unfamiliar with the LP. Overall, teachers supported developing LP but expressed uncertainty on how LP should be scoped and implemented in the curriculum, given the focus on content knowledge and examinations in DP. The study recommended teacher collaboration and professional development to improve the integration of LP into the DP curriculum.

Carlin (2013) examined international-mindedness in an elementary school. The aim was to examine how the concept of international mindedness is incorporated into elementary education; this study surveyed teacher and staff perceptions in three IB Primary Years Programme schools in the United States. The study displays that IM takes many forms and shapes in the IB PYP setting. The levels to which IM is being fostered were incredibly challenging to quantify as there is no exact teaching method that promotes open-mindedness

and makes students curious and knowledgeable about diverse cultures. The teachers with less experience responded negatively about IM.

Weiss (2013) studied teachers' perspectives on the IB Learner Profile assessment in PYP in five international schools in Turkey. Data was collected through teacher surveys and semi-structured interviews. Frequency analysis was used to analyse which learner profile attribute was perceived to be the clearest and unclear during the assessment. It was found that the attribute- of caring was perceived to be the clearer attribute to assess, while the attribute balanced was perceived to be the most unclear to assess. Further, five themes emerged through interviews that described the difficulty in assessing attributes- "subjectivity due to the abstract nature of certain attributes," "artificial results," attributes that are "unable to be observed," and finally, "personal" and "cultural" elements. Finally, the research suggested that the ambiguity of LP implementation is due to the lack of guidelines provided by IB on value development among children of different age groups and recommended that IB create a developmental continuum for each learner profile attribute and train teachers accordingly.

International mindedness is the core of any IB program. The review explored how international mindedness is perceived and practised in the schools adopting one or more IB programs. Hacking et al. (2016) found that international-minded is fussy, takes different forms (Carlin, 2013) in a practical context, and is seen more as a journey than a fixed definition. International mindedness is generally related to how one interacts with people from other cultures and relates oneself with others in a diverse world. It was found that international-mindedness is closely associated with developing the Learner Profile, particularly with open-mindedness and communication (Wells, 2016). The studies revealed that teachers were positive about LP and interpreted the Learner Profile attributes based on their beliefs and experience, which greatly influenced how they implemented the Profile (Poole, 2017; Hacking et al., 2016). It was seen that there is an ambiguity in the implementation and assessment of LP at different age groups and the studies suggested that IB provide guidelines for LP developmental continuum (Weiss, 2013). Some studies (Poole, 2017; Rizvi et al. (2014) also showed that specific LP attributes are resisted in non-western contexts. Further, studies uncovered the challenges in implementing international mindedness where schooling is focused on high stake testing and pressurized by the expectation from local and national contexts (Hacking et al., 2016; Rizvi et al., 2014).

2.7 REVIEW OF RESEARCH STUDIES ON PEDAGOGICAL LEADERSHIP

Leadership finds an important place in the study of curriculum management, and also the IB advocates pedagogical leadership for the effective implementation of the PYP curriculum. With this understanding, the review focused on instructional leadership and pedagogical leadership to identify the critical components and their relationship.

Heikka et al. (2021) explored the enactment of distributed pedagogical leadership in Finnish ECE settings and their relations to teacher commitment to pedagogical leadership on staff teams. The study utilized an exploratory sequential mixed-method design. Data was collected through a survey from 130 ECE practitioners on the enactment of distributed pedagogical leadership and teacher commitment. In the qualitative part, interviews were conducted with the ECE practitioners. The results indicated that ECE centres had adopted leadership practices congruent with distributed pedagogical leadership. Also, the data supported that implementation of distributed leadership positively impacted teachers' ability to lead reflection and learning in their teams.

Stephens (2019) examined the relationship between sustainable leadership practices and IB PYP implementation in six schools in the USA in his multiple case study. The findings were drawn from the responses of the principals. The principals reported that the IB PYP curriculum helped to make learning more relevant for students and the IB Learner Profile helped the students develop attributes necessary for the 21st century. They also highlighted that the biggest challenge in implementing PYP is to offer transdisciplinary education while ensuring that their students are successful in local, state or national assessments. The other challenges are in the areas of teaching skills vs concepts, program funding and teacher instructional practice. Finally, the principals indicated that ongoing professional development was necessary to support the implementation of PYP.

Oladimenji (2018) explored, through a qualitative case study, how distributed leadership influenced the implementation of IB MYP in a public school that has successfully met academic goals in the USA. Interviews were used majorly to collect the data, and content analysis was done to identify the emerging themes and patterns. It was found that distributed leadership positively influenced the implementation of the IBMYP. The highlighted components of leadership practices were effective distributed leadership practices of positional and informal leaders; collaboration among faculty members; positive relationships between

administrators and others; shared academic vision; effective organizational structures, routines, and tools; shared learning.

Lee et al. (2012) explored the critical challenges faced by the IB leaders in the Asia Pacific region, given the socio-cultural and political fabric and identified the implications for researchers and IB school leaders. This multimethod study collected quantitative data from 175 schools worldwide and conducted an in-depth qualitative study on selected countries in the Asia Pacific region. The findings of this article were derived from the data collected through interviews conducted with teachers, students and principals. The study identified challenges emerging from both external and internal influences. The findings indicated that the parents' interpretations and expectations of IB are rooted in the East Asian social culture that places a substantial value on education and high score in external assessments. This posed a challenge for leaders to achieve and sustain congruence between IB program philosophy and the social norms of East Asian societies. Regarding internal influences, human resource management, organizational structures and funding status posed challenges for leaders in implementing IB programs.

Schindler (2012) analyzed the relationship between perceived principal Instructional leadership behaviours and student Academic Achievement. The objectives were to determine the relationship between the congruence of principals' and teachers' perceptions of principal instructional leadership behaviours and student academic achievement. A quantitative approach was adopted. Primary data were collected via the survey method. An instrument, School Leadership Behaviors Survey (SLBS), was developed. A correlation analysis using Pearson's product-moment correlation coefficient (Pearson's r) was conducted using the variables derived from the SLBS (principal and teacher editions) and student achievement scores. The findings were reported: The principals' self-perceptions of instructional leadership behaviours were not significantly correlated to student achievement. The congruence of principals' and teachers' perceptions and student achievement was not statistically significant. The researcher has also stated the limitations of the context and the tool adopted.

McCann (2011) studied to examine teacher perceptions of leadership characteristics that middle school principals should have to be effective instructional leaders. The research question was as follows: 1. How does your school principal use the academic needs of students in the decision-making process? 2. How does your principal build a collaborative school culture, and what leadership skills have you observed in this process? 3. How does your

principal use a guiding vision to lead teachers to student success? A qualitative approach was used for the study. Methods employed include a survey, interviews, and quantitative data describing the results. Data for this study were collected from responses to six Likert Scale survey questions. Significant finding: The middle school teachers in this study perceived the principal as playing a significant role in providing teachers with a focused approach to quality instruction and improving student achievement.

Chew & Andrews (2010) explored the roles of the principal in enabling teachers to become pedagogical leaders. The case study method was adopted for the study. Interviews and observations were conducted to collect the required data. It was found that the role of the principal in enabling the sustainability of teacher leadership was crucial in each case. However, the enabling process needs to be sensitive to the particular context. It was seen in both cases that the principal played an essential role in creating a shared meaning system. The actions differed in both cases, but the intention and the outcome were similar.

Hartman (2008) investigated principals' leadership behaviours in International Baccalaureate programs to create a culture of trust in the school. A descriptive case study method was used, including quantitative and qualitative data. Semi-structured interviews and questionnaires were used to collect the data. The findings indicated a relationship between trust levels and successful change implementation in IB schools. It also showed that the principal's behaviours influence principal-teacher and teacher-teacher trust. Overall the study demonstrated that trust impacts the success of change initiatives in the school and the principal holds a key role in building the culture of trust.

From the review, it was seen that pedagogical/instructional leadership had a positive impact on student achievement (Schindler, 2012), teachers' ability to lead in teams (Heikka et al., 2021) and IB program implementation (Oladimenji, 2018). Collaboration among various stakeholders and continuous professional development was seen as a crucial element in pedagogical leadership. The studies indicated that building positive relationships among the stakeholders, shared academic vision, and creating effective organizational structures and routines are necessary to practice pedagogic leadership in a school effectively. It was also found that principals play a key role in building trust among stakeholders and promoting the distribution of leadership in the school.

Some of the challenges faced by leaders implementing IB programs are, sustaining congruence between IB program philosophy and the social norms of East Asian societies (Lee et al., 2012)

and offering transdisciplinary education while ensuring that the students are successful in local, state or national assessments (Stephens, 2019)

2.8 REVIEW OF RESEARCH STUDIES ON IB PROGRAMS

McKenney et al. (2022) studied the school-based curriculum development in the International Baccalaureate Primary Years Programme. The study aimed to understand the curriculum design practices and the role of teachers in the curriculum designing process at the school level. The study describes how PYP school develop curricula and further illuminates the practitioners' perspectives on their scholarship and capacity to develop the school-based curriculum. The study utilized both quantitative and qualitative approaches, two extensive international surveys of PYP school stakeholders and case studies in five schools were conducted. The significant findings were that PYP schools followed a similar approach to designing school-based curricula; they appreciated the curricular freedom to design the curriculum for their school context. The findings also revealed that the schools lack support and expertise and reported needing more support for school-based curriculum development.

Mutha (2021) studied the administration, curriculum, teaching practices and evaluation in International Baccalaureate schools in Pune city, India. A qualitative ethnographic methodology was adopted, where interviews and observations were used for data collection. The major findings were that the IB Learner Profile defined the school culture. International mindedness in the school was promoted by engaging the families, celebrating different cultural festivals, and sharing food, ethnic attire, and cultural activities. The study found that collaborative learning was evident in the classrooms where teachers used several strategies to engage students meaningfully. Different assessments were also prominent in the classrooms where teachers developed assessments catering to the needs of unique and gifted children. Different assessment approaches and tools were used, like checklists, rubrics, anecdotal records and performance-based assessments. The study also found that the classrooms were well-equipped with technology and a library.

Pushpanadham (2013) critically analyzed India's International Baccalaureate Primary Years Programme. This project aimed to examine the impact of PYP adoption on learning and teaching in India. Findings indicated that trust and respect existed between teachers and school leaders, teaching in PYP schools was generally rated as good or adequate, teachers were generally satisfied with their positions, students indicated high levels of emotional intelligence, and parents felt involved and satisfied with the program. Some challenges for the PYP included

teacher time-management issues due to heavy workload, a lack of teacher training in international curriculum, and a need for increased recognition of the program in the country.

Dickson et al. (2018) reviewed a range of literature sources that examined the impact of IB programs on teaching and learning, highlighting trends, challenges, and benefits. The review findings revealed that most qualitative and quantitative studies examined stakeholders' perspectives or self-reported experiences of IB programs. A wide range of stakeholders reported that IB programs develop research and critical thinking skills, intercultural appreciation, and global awareness, as well as cultivate collaborative working cultures and creative pedagogical practices among teachers. The review identified challenges that include extra demands on teachers for lesson planning and assessment, additional stress for teachers and students, and competing demands and expectations with national requirements.

Lester & Lochmiller (2014) conducted a mixed-method case study of the IBPYP in four Colombian schools. The objectives were to find out the perceptions of students on PYP and the aspects of the IB learner profile reflected in the educational experience. Interviews, focus groups, classroom observation, and document analysis were used for data collection. A survey was also conducted as a part of the study. The findings indicate that students, teachers, and administrators generally perceive the PYP positively and have successfully implemented it in the schools we studied. Students acknowledged the IB Learner Profile and saw the attributes it described as relevant to their daily lives.

Morrissey et al. (2014) conducted a mixed-method study investigating implementation strategies and child learning outcomes in early years education in the Primary Years. The researchers evaluated processes and outcomes in four early years programmes, two in Singapore and two in Melbourne, Australia. Data were collected through classroom observations, drawings and writing produced by children, and interviews with educators, coordinators and parents. Quantitative data was collected through assessments of children's literacy, developmental school readiness and learning skills. The findings revealed that the IB programs appeared to support the development of learner profile attributes through inquiry-led learning and play-based approaches, while one site in Singapore was still in the developmental stage of implementing the program. The study suggested that literacy skills were somewhat developed at early years, children were seen performing on par or better in readiness, and the children were developing learning skills at higher rates than a comparative sample.

Kong & Sperandio (2013) studied how schools evaluate the success of the International Baccalaureate. This study compares how schools define and evaluate the "success" of the Primary Years Programme in school leadership, pedagogy and student learning outcomes. The study examines the most valued aspects of the PYP from the perspective of program stakeholders in different school contexts and points to the key variables that these groups use to measure successful implementation. Mixed methods were used for the study. Questionnaires were the major data collection tool, containing closed and open-ended questions. Case studies were conducted later to gain an in-depth understanding of the school's journey on the success of the program's implementation. The findings revealed that the indicators for the program's success were student outcome and demonstration of learner profile attributes, enhanced pedagogical practices and school leadership.

Guy (2010) studied the International Baccalaureate (IB) in the educational context of modern-day India. His study interrogates the claim that the IB is being utilized to support the marketization of private schooling for a privileged elite. The study found that most IB schools in India are recently built, private unaided schools. IB programs provide choice and market niche differentiation in an international school market. The findings revealed that marketization and commercialization pose particular challenges for the IB in India. The study highlighted that implementing IB needs a paradigm shift in teaching and learning. The study illuminated that the governance of IB schools in India is dominated by family concerns, trusts or business interests and stressed empowering management to commit genuinely to the IB philosophy of international education.

Silliman et al. (2010) examined the impact of the PYP and MYP in Texas classrooms. IB schools performed well compared to other schools in mathematics and reading achievement as measured by the Texas Assessment of Knowledge and Skills (TAKS). The structured classroom observations indicated that good instructional practices and student behaviours and activities occurred more frequently in IB classrooms than in non-IB Texas classrooms. Researchers found that the overall quality of instruction is higher at IB schools. However, they suggested that the implementation varied from school to school. They identified that good instructional practices were more often used in some IB schools than others. As identified by teachers and administrators, positive outcomes of the IB programs included increased teacher collaboration, authentic assessment, increased student motivation for learning, development of critical thinking skills, and increased student global and cultural awareness. Challenges identified by teachers and administrators included staff recruitment and retention, balancing the IB programs

with state and district requirements, the additional time needed for collaborative lesson planning and paperwork, the difficulty and workload for students, student mobility, and lack of support from districts, parents or teachers.

The review of studies conducted on IB programs in India and abroad provided an overview of the components studied and significant findings on the practices and impact of IB programs. Most of the studies indicated a positive response from stakeholders on IB education. The review showed that IB Learner Profile had a prominent place in the IB program in India and abroad. The indicators often considered for the success of IB implementation included the demonstration of LP in the school culture, enhanced pedagogical practices and school leadership. In one of the studies in the USA, it was found that the teachers in the IB schools had better collaboration and used high-quality instruction (Sillisano et al., 2010). Assessment practices were holistic and differentiated, involving a variety of tools and techniques.

The studies in India explored the infrastructure, pedagogical practices and leadership practices in the schools implementing one or more IB programs. It was found that most IB schools in India are recently built, private unaided schools and IB programs are being utilized to provide choice and market niche differentiation in an international school market (Guy, 2010). Most parents were satisfied with the IB program and supported international education for their children (Pushpanadham, 2013). The studies highlighted a greater need for the professional development of school leaders and teachers to take on the paradigm shift that comes with implementing IB programs.

The challenges highlighted in the studies are – lack of time, lack of teacher training for international education in the national context, the enormous workload for teachers, teacher attrition, and most importantly, balancing the IB program with the state and national requirements.

2.9 IMPLICATIONS FOR THE PRESENT STUDY

A total of 50 studies were reviewed following the conceptual framework of curriculum management. Of these, 33 studies were in the IB context in India, south Asia and other regions. This review facilitated the researcher to draw significant implications to the study in terms of identifying the critical components and their interconnectedness under curriculum management, understanding the IB practices, identifying relevant methodology and research tools and most importantly, identifying the research gap.

Curriculum management, as conceptualized in the study, has several interdependent and interconnected concepts under its umbrella. The review was conducted to identify essential components to be included in the study and various sub-concepts and their relation with the main concepts. Thus the review was conducted thematically to gain a better insight into curriculum management. The review was categorized into studies related to curriculum development, transaction, evaluation; transdisciplinary curriculum; inquiry-based teaching-learning, teachers' attributes in constructivist teaching; assessment practices at the primary level; International mindedness- IB Learner Profile implementation; pedagogical leadership and other research in IB precisely PYP context.

The review highlighted the main aspects investigated in the curricular studies and specific IB program implementation. The areas/aspects included are - the analysis of educational philosophy/ curricular objectives, curriculum development process, investigation of the teaching-learning process, evaluation practices and leadership practices. It was found that leadership practices are closely related to curriculum development and implementation.

In order to study how the IB PYP curriculum is adopted in the Indian context, it was essential to carefully choose the areas of investigation that address the research questions. In the IB context, the Learner Profile was the most crucial aspect to be studied as it embodies IB's educational philosophy (international mindedness) and guides the entire curricular and pedagogical practices in IB schools. Several studies were conducted to understand the interpretation of international mindedness and implementation of the Learner Profile in various socio-cultural settings. Along with this, the prominent feature of the PYP - transdisciplinary curriculum needs to be explored. Previous researchers have explored the transdisciplinary nature of the curriculum through teachers' perspectives and experiences. The review also suggested exploring various steps involved and factors influencing curriculum development. Since the schools need to develop their own PYP curriculum based on the guidelines provided by IB, the investigation of steps followed, and stakeholders involved in curriculum development was necessary. The previous studies (Lauridsen, 2003) showed that external factors like state standards/assessments, parental expectations, and community and internal factors like teachers, students and administrators exerted influence on curriculum development and implementation. Thus, investigating factors influencing the PYP curriculum development and implementation was considered an essential element in this study.

Investigation of inquiry-based teaching-learning in PYP was essential to understand how the intended curriculum is practised in a school context. The previous studies have explored several aspects of inquiry teaching-learning that included the study of student behaviour, activities (Alford et al., 2013; Lester & Lochmiller, 2014), classroom transaction (Pushpanadham, 2013; Morrissey et al., 2014), inquiry cycles, planning for inquiry (Coppersmith, 2013), student assessment (Toe et al., 2015) and challenges in inquiry learning (Coppersmith, 2013). The studies (Bergeron & Dean, 2013; Drake et al., 2015; Twigg, 2010; Hutchings, 2010; Getchell, 2010) strongly demonstrated the influence of teachers' beliefs, socio-cultural background, and teaching experience on their teaching-learning practices, thus indicating the exploration of teachers' role, attitudes and attributes that contribute/ hinder the implementation of PYP in the schools.

Leadership practices were commonly studied in the research on IB program implementation. Since leadership plays a significant role in shaping the school's philosophy and practices, the study of leadership practices in IB PYP was seminal as the leaders held the sole responsibility to align the school's vision and mission with the IB philosophy and create conditions and structures that are conducive for effective implementation of PYP in the school. Several studies explored how pedagogical leadership can promote effective learning communities in schools and how the distribution of leadership is seen in the IB context. Further, collaboration was identified as the most important element in pedagogical leadership that promotes effective curriculum management, which affects student outcomes, teachers' performance and, in totality, the school's performance. Thus in the present study, pedagogical leadership is explored to understand how these practices support the implementation of PYP in schools.

Another implication of the review was that it helped the researcher to understand the IB program adoption in various national contexts, its educational practices and its impact on practitioners and schools. It was found that IBO regularly reviews its curriculum, unlike national curriculum(s) that are dependent on political cycles. Several studies indicated the strong alignment of the IB curriculum with the national curriculum, and schools devised specific steps/procedures to develop the IB curriculum to align with the state/ national standards. Studies also showed that the schools implementing IB program/s subscribe to the IB philosophy of developing international mindedness through the development of Learner profile. However, the way in which schools articulated and implemented international mindedness was mainly divergent. The scholars noted that the socio-cultural fabric of the school and the personal beliefs/values of practitioners influenced the interpretation and

implementation of international mindedness and LP. This influencing factor was also true for implementing transdisciplinary curricula and leadership practices. In summation, the studies indicated that the IB features like international mindedness, Learner Profile, transdisciplinary curriculum, inquiry learning and pedagogical leadership take different forms in different contexts as it is influenced by the socio-cultural-political context of the school and practitioners (when implemented in the different socio-cultural-political context of the school and practitioners).

The studies highlighted various educational practices prominent in IB schools. Studies showed that teachers had a positive perspective on transdisciplinary and inquiry-based teaching learning and viewed the IB PYP curriculum as a guiding framework for transdisciplinary teaching and learning. Some studies noted that teachers in IB changed their mindset from a traditional didactic approach to a more progressive approach to teaching-learning, where they played the role of a facilitator and reflective practitioner. It was also found that IB classrooms were learner-centric, where students engaged in collaborative learning that promoted student autonomy. Assessments in IB were reported to be holistic and continuous.

Further, the role of the principal was highlighted in promoting pedagogic distributed leadership in the schools. Finally, several challenges in implementing the IB program were identified. They are: lack of time, lack of professional training for teachers in a national context, the tension in sustaining IB philosophy in the Asian context, and challenges in implementing a transdisciplinary curriculum while focusing on external state/national assessments.

In addition, the review provided several insights into the methodology, and research tools used that can be employed in the present study. Mixed methods were prominent in curricular and pedagogical studies; various mixed method designs like convergent parallel and sequential exploratory designs were used in the previous research. Both quantitative and qualitative tools were utilized in the study. Some standard tools were questionnaires, semi-structured interviews, observations, document analysis and focus groups. It was evident from the review that a single research paradigm was not sufficient to capture the complex nature of curricular and pedagogical practices. Thus, most researchers used multiple paradigms and adopted relevant mixed-method designs to capture the educational realities.

This extensive review of related literature provided more significant insights into IB's curricular, pedagogical and leadership practices that helped the researcher identify the research gap, frame research questions, and address them in the present study. It was seen from the

review that only a few studies were conducted on the IB PYP curriculum in India. Although these studies provided a preliminary understanding of the PYP implementation, they did not illuminate the various practices, processes, conditions and structures that shaped the implementation of the IB PYP curriculum in the Indian context, given the unique socio-cultural- educational and political context of India.

2.10 CONCLUSION

This chapter presented an extensive review of related literature on curriculum and pedagogical practices aligned with IB's approach. The review provided insights on several aspects of the study, from providing clarity of the concepts, identifying research trends and gaps, formulating research questions and directions to adopting relevant research methodology.