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ICT Integration in International Schools: Experiences and Practices of Teachers

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Abstract

International schools are often pioneers in integrating technology into education, recognising the transformative potential of Information and Communication Technology (ICT) in enhancing teaching and learning processes. This paper aims to share best practices observed among teachers in these schools regarding ICT integration in classrooms. The study—a qualitative investigation—involved online questionnaires and interviews with teachers from international schools in India. Conducted during the pandemic, when schools predominantly operated online, the research focused on understanding teachers' experiences with ICT tools and their implementation. A key theme emerging from the interviews was the integration of ICT in teaching, underscoring its necessity during this period. The paper discusses the experiences and practices of teachers, highlighting the benefits and challenges of integrating ICT into the educational framework. Through this exploration, the study provides insights into how ICT has been utilised to support and enhance teaching, as well as the obstacles faced in its effective integration.

INTRODUCTION

The National Education Policy (NEP) 2020 underscores the crucial role of technology in education, emphasising the need for its integration, especially in the wake of the COVID-19 pandemic. The policy highlights that online education is likely to remain a significant component of the educational landscape. While the Programme of Action 1992 and the National Curriculum Framework 2005 (NCF 2005) also recognised the importance of integrating technology into education, their focus was different from the contemporary context shaped by recent developments.

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In addition to National Educational policies, various Central and State-sponsored programmes have stressed the importance of ICT in enhancing school education. The NEP's recommendations, formulated by the Ministry of Human Resource Development (MHRD), Department of School Education and Literacy, Government of India, cover a broad spectrum of issues, possibilities, and limitations associated with ICT in education. The policy provides guidelines for States to optimise ICT use in schools.

The pandemic presented a unique challenge, as physical schools were closed but continued to operate online. This situation highlighted the indispensability of ICT for maintaining connections and facilitating various activities, including education. Although face-to-face learning has irreplaceable benefits, ICT offers a valuable means to enhance and enrich the educational experience. This article aims to share effective and efficient methods of integrating ICT into the curriculum, as experienced by teachers in international schools. The following sections will explore practical approaches to incorporating ICT into everyday teaching and learning processes.

Background

International schools, though lacking a universally accepted definition, are commonly characterised by their adoption of an international curriculum rather than a national one. The study focuses specifically on schools that offer the International Baccalaureate (IB) curriculum.

The IB curriculum comprises four distinct programmes:

- Primary Years Programme (PYP): Designed for students aged 3 to 11 years
- Middle Years Programme (MYP): Designed for students aged 12 to 15 years
- Diploma Programme (DP): Designed for students aged 16 to 19 years
- Career-Related Programme (CP): Designed for students aged 16 to 19 years, with a focus on career-related education

Schools may offer one or more of these IB programmes, depending on their specific focus and resources.

Research Methodology

The list of recognised IB schools worldwide, including their details, can be accessed from the International Baccalaureate Organization's (IBO) official website. This resource also provides the names and contact details of the academic coordinators for each IB programme.

To gather data, the academic coordinators of IB-affiliated schools in India were contacted via the IBO website. They were asked to provide the names of teachers who had been teaching the IB curriculum for at least two years. These teachers were subsequently contacted and invited to complete semi-structured questionnaires. In total, 24 teachers participated by filling

out the questionnaires, which were then analysed.

Following this, personal interviews were conducted with the teachers. The responses from the questionnaires informed the development of interview questions. Each interview lasted between 55 to 65 minutes and was transcribed for analysis. During the analysis, various themes emerged, including one related to the integration of Information and Communication Technology (ICT). The views and experiences of the respondents concerning ICT are discussed in the subsequent sections.

Integrating Information and Communication Technology (ICT)

Schools offering the International Baccalaureate (IB) curriculum are renowned for their extensive and effective integration of Information and Communication Technology (ICT) into teaching and learning activities. These schools understand that basic computer literacy alone is insufficient for providing students with comprehensive technological skills. As a result, they are committed to equipping students with advanced technology-based competencies.

During the interviews, teachers highlighted several common uses of ICT in their classrooms. These included sourcing teaching and learning materials, facilitating digital communication with a broader community of teachers, parents, and students, assigning and managing homework, and conducting assessments while providing feedback to students. The COVID-19 pandemic further emphasised the need for more innovative applications of ICT, compelling educators to explore and implement new technological strategies to enhance the learning experience.

Teachers' Professional Development

Professional Development (PD) refers to the "processes and activities designed to enhance the professional knowledge, skills, and attitudes of educators" (Guskey, 2000). Numerous evidence-based studies have confirmed the positive impact of teachers' professional development on student learning outcomes (Meiers and Ingvarson, 2005; Holloway, 2006; Yoon et al., 2007). Consequently, there has been a growing investment by schools in teachers' professional development. The International Baccalaureate Organization (IBO) has also established several mechanisms to ensure the continuous professional development of teachers.

Respondents in the study shared that the IB provides professional development through various modes, such as face-to-face workshops, online workshops, e-learning, blended learning, and in-school and district or cluster workshops (Thakur, 2021). During interviews, teachers frequently mentioned 'My IB', a 'gateway to IB resources, applications,

and communities' (International Baccalaureate Organization, 2023).

According to respondents, all IB educators worldwide are registered and connected through My IB. The portal offers a wealth of information and resources for teaching and learning. Teachers noted that the portal also serves as a platform for discussing different topics, asking questions, and sharing best practices with other IB educators globally. Respondents further highlighted that the IBO continually updates the portal, providing a list of frequently asked questions with answers, guide papers, sample papers, examination papers, videos, podcasts, activities, and more. This easy access to a wide range of resources not only supports teachers' teaching and learning purposes but also acts as a crucial tool for their professional development.

Conducting Assessments

International Baccalaureate (IB) programmes incorporate both formative and summative assessments. The IB claims to offer students multiple options for formative assessments, while external assessments include various modes such as projects, community service, and research papers.

The practices shared by teachers provide insight into the assessment processes and methods employed by some IB schools. Teachers discussed at length that for formative or internal assessments, students use ICT creatively. Examples include making videos, PowerPoint presentations, storytelling through animation, creating virtual science models, graphics, and blogging. One respondent emphasised that ICT-based assessments often present multiple options to students with special educational needs, allowing them to share their learning in ways that suit them best. She noted that the freedom to choose their preferred mode of assessment encourages students to think outside the box. Although challenging, this approach results in students using innovative ways to display their learning. Another teacher highlighted that IB assessments are not conducted in traditional ways; instead, various options are given or chosen by students for their assessment. She mentioned that teachers and students often co-construct assessments. All respondents in the interviews underscored the distinctive nature of assessment in the IB programme.

Pedagogic Practices

During the pandemic, classroom teaching was not possible, and the only way to continue the teaching–learning process was through virtual mode. Due to this shift, teachers had to adapt their pedagogy to the new way of teaching. Although the teachers of IB schools had been using ICT extensively in their classes, with the transition to completely online classes, they had to rethink how to integrate technology into their pedagogy.

Teachers highlighted the role of ICT specialists in acquainting them

with various ways of using ICT in the classroom. These specialists not only kept teachers updated on new developments in educational technology but also introduced them to different software and websites that made teaching and learning more immersive. For instance, teachers were introduced to 'virtual museum visits', which allow students to take virtual tours of museums around the world, and 'Skype a Scientist,' a website where students can post queries that will be answered by qualified scientists. These specialists also supported students in multiple ways. All the respondents spoke about the practice of appointing ICT specialists, although they are known by different names in different schools.

Some respondents discussed web tools that IB prescribes, such as the Wiseman portal, a learning service provider offering several products and services for innovative and interactive teaching and learning. Another tool is Seesaw, which can be used for creating digital portfolios for students, helping in monitoring student progress with ease. Some of these tools are great platforms for student engagement, while others help in organising student-related records.

Another respondent mentioned that the school is eco-friendly and adopts different ways to reduce the use of paper. Therefore, students are encouraged to use ICT for poster-making, note-taking, designing brochures, and using e-pamphlets.

A teacher who taught senior secondary students added that students have to write a research paper, which is a long and rigorous process. To keep track of students' work progress, teachers use 'ManageBac' software. Teachers remarked that these software tools often make their work simpler and more organised, ensuring regular monitoring of students' progress, which enables instant and continuous feedback.

Another teacher shared an interesting practice. She said that there is a unit on 'Governments', where students explore different types of government in various countries. Guest speakers from Zimbabwe, Thailand, and Brazil were invited to connect virtually with the students. The speakers discussed the kind of government in their respective countries and answered numerous student queries. The teacher used a similar practice to teach a unit on 'Culture', connecting her students online with students in the USA and Japan to create opportunities for interaction and to help them understand each other's cultural practices.

Teachers emphasised that an important aspect of teaching in an international school is the practice of 'differentiation'. They explained that this involves creating inclusive classrooms by addressing the varied needs of diverse learners. Teacher respondents argued that ICT plays an important role in creating inclusive classrooms and has helped students with special needs extensively.

Therefore, ICT can be used as an important tool for addressing diversity in the classroom.

Local Community Engagement

Creativity, Activity, Service (CAS) is an important component of the IB Diploma Programme. CAS requires students to engage in various activities outside their classrooms, aiming to provide them with practical experience. The focus in this section is on its service element. The aim of including the service strand in the programme is to make "students understand their capacity to make a meaningful contribution to their community and society" (International Baccalaureate Organization, 2015).

Teachers were asked about the ways in which students are engaged with the local community. In their responses, they underscored the role of CAS in bringing students, teachers, and parents into close contact with the local community. They enthusiastically shared several examples of such engagements, ranging from collecting funds for building toilets for girls' schools to adopting nearby village schools where students performed regular community service. Teachers noted that during the pandemic, students were not able to engage directly with the community.

However, they praised their students for coming up with innovative ways to fulfil the service component with the help of ICT. Teachers shared that students started online awareness campaigns and initiated many online clubs to explore CAS opportunities. They created pages on social media to dispense information on different social issues and started blogs and social media groups to raise awareness. Despite these efforts, respondents agreed that fulfilling this component during COVID-19 was challenging and complete justice could not be done due to accessibility issues.

CHALLENGES AND LIMITATIONS

IB school teachers and coordinators shared some challenges they faced while using ICT in the teaching–learning process. One teacher mentioned that in their school, senior students use electronic tablets for note-taking instead of traditional notebooks. However, it can be challenging to ensure students' attention remains on the classroom lesson, as they often start using social media or playing games, leading to distractions. Another teacher highlighted the difficulty in encouraging students to use the internet for gathering information for projects or assignments. It can be challenging to make students understand what constitutes a reliable source of information. Additionally, students sometimes copy and paste entire assignments from the internet or use various apps or software to complete their work, making it stressful for teachers to identify such plagiarised work and explain its repercussions (Thakur, 2021).

The University of Nottingham conducted research on selected IB schools in the United Kingdom in 2015 to study the integration of ICT in Science and Mathematics classes of the IB Diploma Programme (DP). Their findings revealed that IB's formal assistance in integrating technology was helpful for schools. However, concerns were raised about the time-constrained nature of the programme, which forced teachers to use ICT in traditional ways, leaving less scope for creative initiatives. The study suggested that more time could allow for engaging with inquiry-driven uses of technology. It further pointed out constraints such as school policies, priorities, curriculum, and modes of assessment. The main constraint was the lack of time for preparation and delivery (Crook, Cooker, Ainsworth al., 2015). Many teachers reinforced these findings, stating that excessive paperwork, multiple deadlines, and time constraints often left them with fewer opportunities to use creative teaching methods.

A respondent teacher also shared that the 'My IB' portal contains many teaching–learning resources, and it can be challenging to sift through multiple resources to find the right one, making the task tedious and time-consuming. These are some of the challenges highlighted by the teachers. They further emphasised the need for extended support to teachers to deal with these challenges and provide the necessary orientation to help students understand the ethical use of technology.

CONCLUSION

The process of globalisation has transformed the world we live in, creating an interdependent and interconnected global society. Advancements in information and communication technologies (ICT) have acted as catalysts in this transformation. Carnoy (2014) argues that the foundation of globalisation is information, and it is highly 'knowledge-intensive', underscoring the importance of ICT in today's world. Schools have the responsibility to prepare learners for future opportunities and challenges. Therefore, integrating ICT in education is essential to make the teaching–learning experience immersive. It is equally important to equip students with ICT skills to broaden their future prospects. However, it is imperative to remember that technology by itself cannot transform the education scenario. With the help of technology, certain challenges can be overcome. Schools must "judiciously use technology to provide engaging, enriching, and elevating learning experiences to students" (West, 2012). Most importantly, by integrating technology, we can prepare students for tomorrow in a much better way. Integrating ICT in education allows students to develop skills that are crucial for the modern world, such as critical thinking, problem-solving, and digital literacy. It also enables teachers to create more interactive

and engaging lessons, fostering a more dynamic and inclusive learning environment. By leveraging technology, educators can cater to diverse learning needs, provide real-time feedback, and create opportunities for collaborative learning. This prepares students not only to excel academically but also to navigate the complexities of a digital and interconnected world effectively.

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