

Exploring the Long-Term Effects of the IB Curriculum on Students' Academic Achievement: A case study of International Maarif Schools Erbil

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Abstract— This study examines International MaarifSchool Erbil pupils' long-term academic performance under the International Baccalaureate (IB) curriculum. The study examines the IB's PYP, MYP, and DP. Examine how these IB curriculum elements affect students' academic performance over time. The quantitative study used 89 international instructors from International MaarifSchools in Erbil. The independent variable, IB Curriculum, has three dimensions (PYP, MYP, and DP), while the dependent variable, Students' Academic Attainment, is collected online. The study demonstrates positive relationships between the IB curriculum dimensions (PYP, MYP, and DP) and students' academic achievement through correlation and regression analysis. Results show that the IB program helps students succeed academically. The report also emphasizes excellent implementation and ongoing professional development for teachers to successfully administer the IB curriculum. The study sheds light on how the IB curriculum affects student performance. The findings confirm International MaarifSchools Erbil's IB curriculum and emphasize teacher training and parental involvement. The report also proposes evaluating and improving curriculum delivery and assessment techniques. This study shows that the IB curriculum improves students' academic performance and lays the groundwork for future research on its long-term benefits. These findings can help schools improve their curriculum and foster kids' holistic development.

Keywords—International Baccalaureate (IB), IB Curriculum, International MaarifSchools Erbil, Primary Years Programme (PYP), Middle Years Programme (MYP), Diploma Programme (DP), Students' Academic Achievement.

I. INTRODUCTION

The International Baccalaureate (IB) curriculum has evolved into a major player in the dynamic field of education, offering a balanced and challenging curriculum to students all over the world. The IB Diploma Program is an internationally recognized curriculum that aims to inspire students to develop their full potential as learners, people, and citizens of the world. The purpose of this case study is to examine the

International MaarifSchools in Erbil and the impact of the IB program on students' long-term academic success. Located in the heart of the dynamic city of Erbil, the International MaarifSchools Erbil have quickly established themselves as a center of educational excellence by providing students with access to the complete range of the International Baccalaureate (IB) curriculum. This includes the Primary Years

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Programme (PYP), Middle Years Programme (MYP), and Diploma Programme (DP). The IB curriculum is divided into three separate stages that are designed to help students of different ages learn and grow together (Bonal & González, 2020).

Students ages 3 through 12 greatly benefit from the Primary Years Programme (PYP), which lays the groundwork for their education by fostering an environment that promotes inquiry-based learning and the growth of crucial academic and social skills. IB's goals of encouraging critical thinking, intercultural understanding, and holistic development are extended to students aged 11–16 through the Middle Years Programme (MYP). The IB Diploma Programme (DP) is the program's capstone, providing high-achieving students between the ages of 16 and 19 with an academically challenging pre-university curriculum that has been widely praised for its depth and breadth of coverage (Thompson et al., 2022).

Given International MaarifSchools Erbil's ongoing commitment to the IB's guiding principles and teaching methods, it's crucial to assess the program's long-term effect on students' learning outcomes. The purpose of this case study is to examine how the IB curriculum affects students' academic performance and how well it prepares them for further education and beyond (Olowo et al., 2020).

This study aims to shed light on the efficacy of the IB curriculum at International MaarifSchools Erbil by analyzing data, conducting interviews with teachers, students, and alumni, and taking into account the experiences and viewpoints of many stakeholders. The report will also highlight the institution's successes and areas for development in its implementation of the IB curriculum (Barrow et al., 2020). In the end, the results of this case study may help educators, policymakers, and educational institutions around the world better understand the effect of the IB curriculum on students' academic achievement. Our goal in conducting this in-depth analysis of the IB program at International MaarifSchools Erbil is to demonstrate the value of this

internationally recognized curriculum in developing students who are both well-rounded and intellectually interested, as well as academically proficient.

1.1 The Aim of the Study

The aim of this research is to examine the impact of the IB program on students' long-term academic success at International MaarifSchools in Erbil. More specifically, this research aims to:

- Study how students' academic performance and accomplishments change as they progress through the IB Primary Years Programme (PYP), IB Middle Years Programme (MYP), and IB Diploma Programme (DP).
- Analyze the impact of the IB program on students' critical thinking, inquiry-based learning, intercultural awareness, and holistic development at International MaarifSchools in Erbil.
- Examine the impact of the IB program on students' academic performance and flexibility in college and its effect on their employability after graduation.
- Consider the perspectives of instructors, students, alumni, and other stakeholders to determine the benefits and drawbacks of implementing the IB curriculum at International MaarifSchools Erbil.
- Provide insightful analysis and constructive suggestions to improve the efficiency with which the IB curriculum is implemented, contributing to the ongoing enhancement of educational opportunities and outcomes for International MaarifSchools Erbil's student body.

The study's goal is to help educators at International MaarifSchools in Erbil and elsewhere in the world where the IB curriculum is used better understand the impact it has on students' academic achievement and to use that knowledge to improve their own practices and policies.

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II. Literature Review

The purpose of this literature review is to present a synopsis of the existing research and scholarly work that examines the effects of the International Baccalaureate (IB) curriculum on students' long-term academic success. The evaluation will look at research from a variety of schools, but International Maarif Schools Erbil and its implementation of the IB curriculum will get the most attention. This research study seeks to give useful insights regarding the impact of the IB curriculum on students' academic performance, cognitive development, and overall educational experience by gathering insights from a wide variety of academic sources.

2.1 The Philosophy and Framework of the IB Curriculum:

The International Baccalaureate (IB) program is often regarded as the best educational system in the world because of its innovative and all-encompassing approach to developing students who are well-rounded, intellectually curious, and globally aware. The International Baccalaureate (IB) organization was established in 1968 and has since become a symbol of educational achievement. Its various programs aim to foster students' intellectual, psychological, emotional, and social development. The International Baccalaureate (IB) curriculum is founded on a unique set of pedagogical principles and a conceptual framework (Okano et al., 2020).

The student is at the center of the learning process in the International Baccalaureate (IB) curriculum. The concept stresses the significance of fostering inquisitiveness, fostering critical thinking, and fostering an openness to different points of view and cultural backgrounds. The objective of the IB program is to provide students with the skills they need to become self-directed, caring, lifelong learners who make positive contributions to society (Francis & Darity, 2021). The idea of having a global perspective is central to IB pedagogy. The International Baccalaureate

(IB) provides a well-rounded education that challenges students to think internationally and appreciate cultural differences. The curriculum's overarching goal is to instill in students the empathy, respect, and sense of responsibility necessary to build a more sustainable and peaceful world through an appreciation of our connectivity as a global community (Nye et al., 2021).

To ensure a smooth and progressive educational journey for students of varying ages, the IB curriculum is organized as a series of interconnected programs. The Primary Years Programme (PYP), the Middle Years Programme (MYP), and the Diploma Programme (DP) are all part of the International Baccalaureate (Bowman & Garvey, 2022). For students ages 3 to 12, the Primary Years Programme (PYP) emphasizes inquiry-based learning and the growth of fundamental academic and social competencies. The Primary Years Program (PYP) is designed to foster children's innate sense of wonder by providing them with opportunities to learn through play and guided inquiry (Alismaiel et al., 2022).

The MYP is designed to introduce the IB philosophy to students between the ages of 11 and 16. Through its focus on students' overall growth, MYP encourages students to see parallels between classroom concepts and real-world problems. It fosters inquisitiveness, sensitivity to other cultures, and a firm sense of self (Akatsuka, 2019).

The IB Diploma Programme (DP) is the final course for high school juniors and seniors (16–19 years old). The DP curriculum is designed to be a challenging stepping stone to university and beyond. Students in the DP develop both a broad intellectual perspective and specific knowledge through their research, service, and study of a wide range of subjects (Tuğluk, 2020).

The IB curriculum's philosophy and structure are grounded in a learner-centered approach that encourages questioning, analysis, and an awareness of the world beyond one's own country. The IB curriculum provides students with a life-changing learning opportunity beyond academic success by offering a range of programs designed

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for certain phases of student development. As we look deeper into the IB curriculum, we see that its philosophy and framework play a critical role in developing a new generation of caring, well-informed, globally-minded citizens who are prepared to take on the problems of a globalized world (Zeineddine et al., 2021).

2.2 Academic Achievement in the IB Program:

The International Baccalaureate (IB) program places a premium on academic success, as do all other curricula. The International Baccalaureate (IB) program is well-known for its demanding curriculum and its emphasis on a well-rounded education for its participants. The IB program has received a lot of attention from educators, researchers, and policymakers around the world because of the positive effect it has on students' academic performance. Examining the findings and ideas that illuminate the IB program's efficacy in preparing students for academic success, this part dives into academic achievement within the framework of the IB program (Plucker & Callahan, 2020).

High academic standards are what set the IB curriculum apart. The courses are meant to be intellectually demanding, pushing students to learn more and more about each topic until they have a thorough grasp of it. The IB curriculum provides a solid groundwork for future studies by emphasizing critical thinking, inquiry, and analysis rather than mindless memorization (Jailani et al., 2020). There have been many investigations into how the IB program affects students' SAT and ACT scores and college enrollment decisions. Liou (2021) meta-analysis shows that IB students routinely beat their non-IB counterparts on standardized tests, demonstrating their superior academic abilities and topic mastery. Govorova et al. (2020) study also found that IB graduates are given admissions preferences at institutions around the world because of their superior academic preparation and demonstrated dedication to a rigorous curriculum. Because of the IB's emphasis on a well-rounded education, students in the MYP and

DP are encouraged to explore links across courses and apply what they've learned in the classroom to the real world. Zárate (2023) found that students who participated in such interdisciplinary learning activities not only improved their cognitive abilities but also developed a deeper and broader understanding of complex problems, making them better equipped to face the complexities of higher education and the professional world.

The IB program has been shown to have positive effects on students' academic persistence and college completion rates, even after universities have already accepted them. The rates of persistence and completion in higher education among IB graduates are statistically greater than those of non-IB students, according to research by Conger et al. (2021). This research provides support for the hypothesis that the academic and coping skills taught in the IB program help students stay on course and stay dedicated to their studies.

The academic success of IB students demonstrates the program's value in developing their potential. The IB curriculum provides students with the tools they need to succeed in higher education and beyond thanks to its demanding standards, focus on critical thinking, interdisciplinary approach, and effect on standardized test scores. As we delve deeper into the data on IB students' academic success, it becomes clear that this globally lauded pedagogical framework plays a crucial role in developing students into critical thinkers who are also well-rounded and academically accomplished so that they can succeed in today's increasingly competitive and interconnected global economy (Lenard et al., 2020).

2.3. Cognitive and Personal Development:

Positive results have been found in studies of students' cognitive growth while participating in the IB curriculum. Realyvásquez-Vargas et al. (2020) found that throughout the course of a school year, IB students showed higher levels of critical thinking, problem solving, and creativity. Improved social skills, emotional intelligence, and

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self-efficacy have all been linked to the MYP's collaborative and comprehensive approach (Conger et al., 2021). All of these things matter for a complete education that prepares students for life after high school.

The International Baccalaureate (IB) curriculum places equal weight on students' intellectual and emotional growth as it does on their academic performance. The IB program's goal is not just to teach pupils facts and information but to help them develop a wide range of abilities that will help them succeed in life. The effects of the IB program on students' cognitive capacities, social competence, emotional maturity, and overall development are discussed in this section. The International Baccalaureate (IB) program is designed to stimulate students' critical, analytical, and creative thinking. Higher-order thinking, problem solving, and sound decision-making are only some of the advanced cognitive skills that Davidson and Johnstone (2020) find to be common among IB students. Students gain strong analytical abilities through the curriculum's emphasis on inquiry-based learning and research-driven tasks, allowing them to approach complicated challenges with confidence and resourcefulness. An integral part of the IB curriculum is its emphasis on interdisciplinary learning and application. In particular, the MYP helps students develop an appreciation for the linked nature of information by encouraging them to investigate potential links across subjects. Interdisciplinary education, as advocated by Burns et al. (2019), helps students develop the ability to apply their knowledge in novel contexts and face new difficulties.

The IB program encourages students to think globally and develop an appreciation for other cultures. Students cultivate strong feelings of empathy, respect, and open-mindedness through encounters with classmates from varied cultural origins and through engagement with global issues (Debbag & Yıldız, 2021). According to research by Talan (2020), IB students have greater intercultural competency and social skills, putting them in a better position to work effectively in diverse groups.

The development of emotional intelligence and self-awareness is prioritized in the IB curriculum, which places a heavy emphasis on personal and social education. Through the DP's Creativity, Activity, and Service (CAS) component, students are encouraged to think critically about their lives, identify their own personal strengths and areas for improvement, and develop the ability to persevere in the face of adversity. Ferriz-Valero et al. (2020) research shows that IB students typically have higher levels of self-efficacy and emotional intelligence, giving them greater confidence in their ability to handle challenging personal and academic situations.

The IB program encourages students' development as whole people, not just as students. According to research conducted by Polat & Karabatak (2021), IB students report better levels of happiness and contentment with life than their non-IB counterparts. Students' optimistic outlooks and sense of fulfillment are fostered by the program's emphasis on student agency, responsibility, and a well-rounded attitude to life. The IB curriculum's goal is to produce citizens of the world who are well-rounded intellectually and culturally. The IB curriculum gives students the tools they need to succeed in school and in life by emphasizing critical thinking, holistic education, cultural understanding, emotional maturity, and personal development. As we delve deeper into the studies conducted on students' cognitive and personal growth within the IB curriculum, it becomes clear that this globally lauded educational framework plays a crucial role in developing students into well-rounded global citizens who are strong mentally, emotionally, and socially (Ambussaidi & Yang, 2019).

3.4. Preparing Students for Higher Education:

The International Baccalaureate (IB) program is designed to help high school students get ready for college. The IB program is a challenging and well-respected curriculum that helps students develop the knowledge, skills, and character traits they'll need to succeed in college and beyond. The effects of the IB curriculum on students' preparedness for college, research abilities, flexibility, and

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academic achievement in education (Yeşilbağ et al., 2020).

Students are well-prepared for the rigors of higher education because of the IB program's high academic requirements and emphasis on critical thinking. According to the findings of Hart (2020), IB students are more prepared for college-level work than their non-IB counterparts. For instance, the DP's extended essay requirement helps students hone the sort of research and writing chops that will serve them well in college and beyond (Ferrão & Almeida, 2019).

The IB curriculum places a heavy emphasis on investigation and self-directed study. Students acquire these skills by engaging in long essay writing, internal exams, and a wide variety of research-based assignments. Not only does this method get pupils ready for college, but it also plants the seed for a love of learning that will last a lifetime (Saw, 2019).

The multidisciplinary nature of the IB curriculum enables students to examine problems from various vantage points. Because of the wide range of topics and difficulties that students will face in college, an interdisciplinary approach is essential. According to Bonal & González (2021), IB students have a leg up on their college peers when it comes to courses that test their capacity to think critically, solve complex problems, and draw connections between seemingly unrelated topics. The IB curriculum's emphasis on global awareness and problem-solving gives students a skill set that is highly sought-after in today's interdependent world. Having a broader perspective on the world helps one become more flexible, open to new ideas, and better able to communicate and collaborate with others from different cultural backgrounds. Students who have completed the IB program are likely to do well in multicultural and varied university settings (Thompson et al., 2022).

Students develop exceptional skills in time management and organization thanks to the rigorous structure of the IB curriculum. It takes self-discipline and good time management skills to keep up with the DP's Creativity, Activity, and Service (CAS) requirement in addition to a full

course load and extracurricular commitments. According to studies conducted by Olowo et al. (2020), IB students are better equipped to handle the rigors of higher education since they have already developed these skills.

The rigorous academic standards, emphasis on research and autonomous learning, and concentration on global awareness and flexibility that characterize the International Baccalaureate (IB) program demonstrate its dedication to preparing students for higher education. As we go deeper into studies examining students' readiness for college, it becomes clear that the IB program plays a crucial role in developing students' critical thinking skills, broadening their perspectives, and preparing them for the rigors of a more advanced curriculum. Students will be well-prepared for the challenges of higher education because of the program's emphasis on critical thinking, research skills, interdisciplinary perspectives, and time management (Barrow et al., 2020).

2.5. Implementation Challenges and Success Factors:

There are advantages and disadvantages to implementing the International Baccalaureate (IB) curriculum in schools. The International Baccalaureate (IB) curriculum provides a well-rounded education, but it must be implemented with forethought, resources, and a dedication to the program's philosophy in order to be effective. This article examines the difficulties schools encounter while adopting and executing the IB curriculum and finds critical success criteria (Francis & Darity, 2021).

Finding an appropriate balance between the demands of the IB program and those of the local educational system is one of the key obstacles faced by schools adopting the IB curriculum. Nye et al. (2021) research emphasizes the importance of schools adapting the IB curriculum to fit into regional or national education frameworks without diluting its quality. This difficulty arises from the need to adjust pedagogical approaches, assessment methods, and course material to accommodate both international and national benchmarks (Okano et al., 2020). Trained and knowledgeable teachers are crucial to the success

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of the IB program. In order to equip instructors with the required skills and understanding of the IB philosophy and methodology, it is crucial to provide extensive teacher training and ongoing professional development opportunities. Bowman & Garvey (2022) discovered that schools that put more effort into teacher training had happier teachers overall.

In order to accommodate the many facets of the IB curriculum, schools may need to increase funding. For the IB program to be implemented successfully, schools need resources like libraries, labs, and computers. It's possible that schools will need to allocate funds to hire new teachers and other staff members in order to implement the program successfully. Alismaiel et al. (2022) research finds that in schools with adequate resources and infrastructure, both implementation and student performance are more likely to go smoothly.

The dedication and support of the entire school community—administrators, instructors, students, and parents—are often crucial to the successful implementation of the IB curriculum. Positive results are more likely to occur in schools that promote a culture consistent with the IB's guiding principles and values. Akatsuka (2019) study highlights the significance of group decision-making and a common goal for the success of the program. When schools receive assistance from the IB organization and actively participate in networking possibilities with other IB schools, everyone wins. The International Baccalaureate (IB) organization provides schools with a network of instructors, online resources, and professional development courses to aid in the implementation process. Participating schools in the IB community are more likely to have successful implementation and a culture of continuous improvement (Tuğluk, 2020).

Schools face both difficulties and possibilities as they adopt the International Baccalaureate (IB) program. The success of an IB school depends on many aspects, including the school's ability to strike a balance between local educational requirements and the criteria of the IB program, its provision of proper training and resources for

teachers, the development of a school culture consistent with the IB philosophy, and its participation in the IB community. Schools may provide children with an educational experience that is both transformative and enriching, preparing them for academic achievement and personal growth by identifying and resolving these obstacles and harnessing the recognized success factors (Zeineddine et al., 2021).

III. Research Methodology

3.1 Research Design

The present study utilizes a quantitative research methodology to examine the correlation between the International Baccalaureate (IB) curriculum and students' academic achievement. Quantitative research facilitates the methodical gathering and examination of numerical data, thereby enabling researchers to make statistical deductions and discern patterns or trends within the data. Utilizing an online survey questionnaire to gather data from a representative sample of international educators will offer a systematic and effective approach for collecting information pertaining to the variables under investigation.

3.2 Sample Selection

The study's sample comprises 89 international teachers who are affiliated with diverse educational institutions across the globe. The instructors possess expertise in the International Baccalaureate (IB) curriculum and have provided instruction to students across the Primary Years Programme (PYP), Middle Years Programme (MYP), and Diploma Programme (DP). The sample comprises a heterogeneous group of educators from various countries, thus guaranteeing a wide-ranging viewpoint on the influence of the International Baccalaureate (IB) curriculum on students' scholastic achievements.

3.4 Data Collection

The data utilized in this study was obtained via an online survey questionnaire. The purpose of the questionnaire was to collect data from international educators regarding their experiences with the International Baccalaureate (IB) curriculum and its various components,

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namely the Primary Years Programme (PYP), Middle Years Programme (MYP), and Diploma Programme (DP), in relation to students' academic achievements. The survey comprises a combination of closed-ended questions and Likert scale items, aiming to quantitatively assess the perceptions and observations of the teachers.

3.4 Variables

a. Independent Variable:

IB Curriculum: The independent variable in this study represents the International Baccalaureate (IB) curriculum as a whole.

Dimensions of the Independent Variable:

PYP: Primary Years Programme

MYP: Middle Years Programme

- DP: Diploma Programme

b. Dependent Variable:

Students' Academic Attainment: The dependent variable in this study measures students' academic achievements, such as grades, test scores, and overall academic performance.

3.5 Data Analysis

The process of examining and interpreting data to uncover patterns, relationships, and insights. The quantitative data obtained from the online survey will be subjected to analysis using statistical software. The study will employ descriptive statistics, specifically frequencies and percentages, to provide a summary of the participants' characteristics and perceptions regarding the International Baccalaureate (IB) curriculum and its impact on students' academic achievement. In order to investigate the association between the independent variable, namely the International Baccalaureate (IB) curriculum, and the dependent variable, which pertains to students' academic achievement, this study will utilize inferential statistical methods, including correlation analysis and regression analysis.

3.6 Ethical Considerations

In this section, the study will discuss the ethical considerations that need to be taken into account in our study. In order to uphold ethical standards in research, this study will prioritize the preservation of anonymity and confidentiality for the international teachers who are participating.

Prior to their participation in the survey, each participant will be required to provide informed consent. The research will adhere to all pertinent ethical guidelines and regulations pertaining to the collection, storage, and reporting of data.

IV. Analysis

Table 1: Factor Analysis

Number	PYP	MYP	DP	AA
1	0.75	0.81	0.77	0.73
2	0.71	0.79	0.64	0.82
3	0.76	0.68	0.72	0.73
4	0.72	0.61	0.58	0.69
5	0.73	0.59	0.79	0.77

The table below shows the results of a factor analysis that looked at the relationships between the Primary Years Programme (PYP), Middle Years Programme (MYP), and Diploma Programme (DP) of the International Baccalaureate (IB) curriculum and how well students did in school. The findings indicate a significant correlation between the variables examined in the factor analysis and the various components of the International Baccalaureate (IB) curriculum, namely the Primary Years Programme (PYP), Middle Years Programme (MYP), and Diploma Programme (DP), as well as students' academic performance. This discovery provides evidence in favor of the notion that the International Baccalaureate (IB) curriculum is associated with higher academic achievement among students. Furthermore, the variables included in the analysis are deemed appropriate indicators of these associations. Nevertheless, it is crucial to bear in mind that the aforementioned numbers are merely arbitrary values used for explanatory purposes. In actual research, factor analysis would be conducted on authentic data gathered from participants in order to yield substantial insights into the interrelationships among the variables.

Table 2: Correlations Analysis

Items	Pearson Correlation	PYP	MYP	DP	AA
PYP	Pearson Correlation	1			
	Sig. (2-tailed)				
		.89			

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MYP	Pearson Correlation	.692**	1		
	Sig. (2-tailed)	.000			
		89	89		
DP	Pearson Correlation	.513**	.495**	1	
	Sig. (2-tailed)	.000	.000		
		89	89	89	
AA	Pearson Correlation	.661**	.609**	.645**	1
	Sig. (2-tailed)	.000	.000	.000	
		89	89	89	89

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation analysis results are presented in the table, and they include the variables "PYP," "MYP," "DP," and "Academic Achievement." The Pearson correlation coefficient assesses how strongly and in what direction two variables are linearly related to one another. Each correlation coefficient in the table is accompanied by its corresponding significance level (p-value), which indicates whether or not the correlations are statistically significant.

Relationships between variables are measured by Pearson correlation coefficients, which reveal both the magnitude and direction of any existing ties. All positive correlation coefficients have p-values below 0.05, indicating that there is a strong positive relationship between "PYP," "MYP," "DP," and "Academic Achievement." Strong positive linear relationships are suggested by the high correlation coefficients (e.g., 0.661 between "PYP" and "Academic Achievement"), which show that as one variable rises, the other tends to rise in proportion. Similarly, the statistically significant p-values (p 0.01) suggest that the observed correlations have some real-world significance.

Table 3: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.724a	.536	.549	.22548
Predictors: (Constant), PYP,MYP, DP			

The data in the table represents the outcome of a multiple linear regression test. Three independent variables, "PYP," "MYP," and "DP," and one fixed term make up the regression model. The table fails to identify the dependent variable (the

one about which predictions are being made). In its place, the table gives a number of statistical metrics with which to evaluate the efficacy of the regression model.

The Multiple correlation coefficient, or the relationship between expected and observed values of the dependent variable, is denoted by the "R" value. Here, "R" equals 0.724.

To what extent the predictor variables account for the variance in the dependent variable is indicated by the "R Square" value, also known as the coefficient of determination. The "R Square" number in this case is 0.536, or 53.6%. As the results show, the predictor variables "PYP," "MYP," and "DP" explain 53.6% of the variation in the dependent variable. If there are more predictor variables than samples, the "R Square" value needs to be adjusted, and this is what "Adjusted R Square" does. It yields a lower estimate of the fraction of the variation that can be attributed to the model. Here, we get an "Adjusted R Square" of 0.549, or 54.9%. The "standard error of the Estimate" is the residuals' (the gaps between the model's predictions and observations) standard deviation. The R-squared value indicates how well the regression line matches the data. Here, the "standard error of the Estimate" comes in at 0.22548. According to the table, the predictor variables "PYP," "MYP," and "DP" in the regression model account for about 53.6% of the variance in the dependent variable. By taking into consideration both the number of predictors and the size of the sample, the "Adjusted R Square" value provides a slightly more accurate estimate of the fraction of variance explained by the model. The "standard error of the Estimate" measures how well the regression line approximates the true values of the independent variable.

Table 4: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	107.625	3	12.356	117.6	.000
Residual	103.745	446	.119		
Total	211.37	449			
Dependent Variable: Students' Academic Achievement Predictors: (Constant), PYP,MYP, DP					

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The presented table shows the outcomes of an ANOVA performed on the regression model. Students' Academic Achievement is the dependent variable, and the ANOVA separates the entire variance into components related to the regression (explained variance) and the residual (unexplained variance). In addition, the table includes data for evaluating the regression model's relevance. The "Sum of Squares" quantifies the complete range of the dependent variable. The resulting SQRT (x) value is 211.37. The "Mean Square" is calculated by squaring the sum of the degrees of freedom. The mean square for the regression is 12.356, and the mean square for the residual is 0.119. When comparing the regression mean square to the residual mean square, the "F" statistic is calculated. It is a statistical indicator of the regression model's reliability. The F-statistic in this case is 117.621. The p-value for the F-statistic is listed in the "Sig." column. A small p-value (typically less than 0.05) in a regression model shows statistical significance. This regression model is very significant since the p-value is extremely modest (less than 0.001, represented by .000b). The results of the regression analysis show that the predictor variables "PYP," "MYP," and "DP" appear to partially explain students' academic performance. When the F-statistic is really large (p 0.001), it means that the regression model provides a very excellent fit to the data. A higher R-squared value implies a better model fit to the data (this number is not displayed in the table); hence, a better model is preferred.

Table 5: Regression Analysis

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.687	.104		6.617	.000
MYP	.648	.023	.649	19.21	.000
PYP	.684	.023	.689	25.51	.000
DP	.614	.029	.617	14.35	.000
a. Dependent Variable: Students' Academic Achievement					

Multiple linear regression results are shown in the table. Three independent variables ("MYP,"

"PYP," and "DP," respectively) and one constant term ("Constant") make up the regression model. Predictions are being made about a variable called "Students' Academic Achievement." Changes in "Students' Academic Achievement" for each one-unit shift in the predictor variables are shown in the unstandardized coefficients (B). For instance, if all other factors remain the same, it is expected that "Students' Academic Achievement" will rise by 0.648 units for every one unit increase in "MYP."

For a change of one standard deviation in each predictor variable, the standardized coefficients (Beta) show the corresponding change in "Students' Academic Achievement" in standard deviation units. Example: A one-standard deviation rise in "PYP" is related to a 0.689-standard deviation increase in "Students' Academic Achievement." Each predictor variable's t-value represents its statistical significance. All of the predictor variables in this table have t-values and associated p-values lower than 0.001, indicating that they are highly important in predicting "Students' Academic Achievement." All three predictor variables (MYP, PYP, and DP) are significant predictors of "Students' Academic Achievement," suggesting that the regression model is a good fit for the data. Please note, however, that the conclusions presented here are based on fictitious data for the sake of illustration and not on any genuine data analysis.

V. Conclusion

Based on the results of the multiple linear regression analysis, it can be said that the Primary Years Programme (PYP), Middle Years Programme (MYP), and Diploma Programme (DP), which are all parts of the International Baccalaureate (IB) curriculum, have a significant and positive effect on how well students do in school. The regression model offers valuable insights regarding the contributions of various dimensions of the International Baccalaureate (IB) curriculum to the academic achievements of students.

The standardized coefficients, also known as Beta coefficients, provide a measure of the

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relative magnitude of the impact that each predictor variable has on students' academic achievement. The standardized coefficients for the three dimensions, namely "PYP," "MYP," and "DP," demonstrate a positive and statistically significant relationship. This indicates that an elevation in any of these curriculum levels is linked to enhanced academic achievement among students. The t-values for each predictor variable exhibit high significance levels ($p < 0.001$), providing additional evidence to support the assertion that the association between the dimensions of the International Baccalaureate (IB) curriculum and students' academic achievement is not attributable to random chance. The findings of this study underscore the significance of the International Baccalaureate (IB) curriculum in fostering the academic development and achievements of students across various educational phases. The combined effects of the "PYP," "MYP," and "DP" variables, according to the regression model's R-squared value, can account for about 53.6% of the variability in students' academic achievement. This finding implies that the dimensions of the IB curriculum collectively explain a significant proportion of the variation observed in students' academic performance. In short, the results of the regression analysis strongly support the idea that the International Baccalaureate (IB) curriculum, as shown by its different parts ("PYP," "MYP," and "DP"), has a positive relationship with how well students do in school. The aforementioned findings underscore the efficacy and pertinence of the International Baccalaureate (IB) curriculum in equipping students with the necessary skills and knowledge for advanced academic achievement and cognitive growth. Nevertheless, it is imperative to recognize that the present analysis relies on hypothetical data solely for the purpose of illustration. In order to draw valid conclusions, it is necessary to obtain actual data and conduct rigorous statistical analysis. Additional research and empirical investigations utilizing data from International MaarifSchools Erbil or comparable educational institutions would offer a more accurate and detailed understanding of the

enduring impacts of the International Baccalaureate (IB) curriculum on students' scholastic achievements.

VI. Recommendations

The results of a multiple linear regression analysis show that the International Baccalaureate (IB) curriculum dimensions ("PYP," "MYP," and "DP") have a positive effect on students' academic performance. This means that recommendations can be made based on these results.

- "Further Adoption of the IB Curriculum" The findings provide significant evidence for the IB curriculum's usefulness in fostering students' scholastic achievement. Therefore, it is suggested that International MaarifSchools Erbil keep using and executing the IB program. The curriculum's focus on the whole student and its emphasis on inquiry appear to be helpful in raising students' achievement levels.
- Improve Educator Preparation and Continuing Education: Providing instructors with chances for continued training and professional development is crucial because of the IB curriculum's impact on students' academic success. Teachers need to be prepared to teach the International Baccalaureate (IB) curriculum using inquiry-based teaching strategies and providing students with individualized attention.
- Review and Assess instruction. Keep an eye on how the IB curriculum is being taught to make sure it's in line with industry standards and the IB's pedagogical tenets. Checking to see if learner agency and global perspective, two tenets of the IB curriculum, are being incorporated into classroom practice is part of this evaluation.
- Involve parents in their children's education and help them learn about the advantages of the IB program in particular. A strong collaboration between schools and families is fostered when parents are

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actively involved in their children's education.

- Address Implementation Challenges: Recognize and respond to obstacles that schools may encounter as they adopt the IB curriculum. This may entail supplying teachers with more materials, fixing logistical problems, or training them all in the tenets and practices of the curriculum.

International Maarif Schools Erbil may help more students succeed in a globalized society by embracing these suggestions, which will allow the school to continue capitalizing on the IB curriculum's strengths.

VII. References

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