

Research summary

The International Baccalaureate Diploma Programme: Alignment with Swedish Upper Secondary Education

Summary developed by IB Research based on a report prepared by:
The National Recognition Information Centre for the United Kingdom (UK NARIC)

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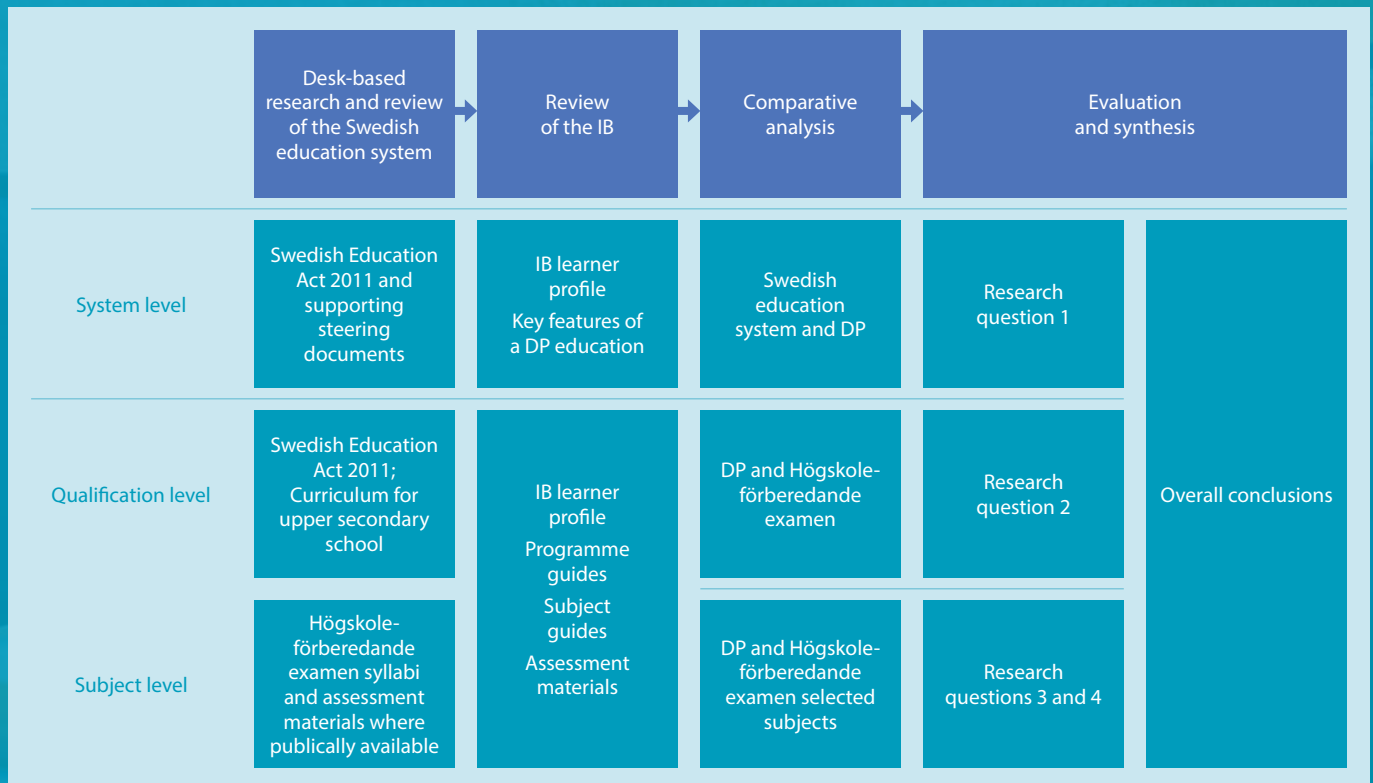
Background

The purpose of this study was to identify similarities and differences between the International Baccalaureate (IB) Diploma Programme (DP) and the Swedish education system—in particular the Högskoleförberedande examen—the Swedish upper secondary qualification. The study explores alignment between the DP and Swedish principles and objectives for education and also compares overarching pedagogical and learning approaches and intended outcomes. Additionally, researchers compared the content and structure, approaches to assessment, and cognitive demand of selected DP subjects (mathematics standard level (SL) and higher level (HL); mathematical studies SL; and biology, chemistry and physics, all at SL) and their Swedish upper secondary equivalents.

The Högskoleförberedande examen is a three-year upper secondary post-compulsory qualification designed to prepare students for higher education. Admission is based on student grades in their preceding studies, with subject tests in Year 9, the last year of compulsory schooling. There are currently six higher education preparatory programmes, each designed to prepare students for a different area of university study. To undertake a higher education preparatory programme (Högskoleförberedande examen), students must have passing grades in Swedish or Swedish as a second language, English, mathematics and at least nine other subjects.

Research design

To conduct a reliable comparison of the DP and the Swedish education system, the study included three key phases: desk based research and a document review for both systems; comparative analysis; and evaluation and synthesis. The methodological approach is outlined below.



Findings

Having conducted a policy, system, qualification, and subject-level comparative analysis of the Swedish and IB upper secondary education systems, this study has identified many areas where the DP aligns closely with the Swedish Högskoleförberedande examen's learning outcomes, content and underpinning philosophy.

Overarching findings

Overall, the DP aligns very closely to the Swedish principles and general objectives for upper secondary education. In particular both systems seek to:

- provide students with solid preparation for higher education or work
- support students' holistic and personal development and provide an education that builds not only knowledge, but social, communication, collaboration, self-management and reflection skills
- provide an education that builds knowledge and skills related to human rights and democracy, both in the classroom (by demonstrating respect for others, integrity, and open-mindedness) and beyond (as active, responsible, tolerant and competent citizens)
- develop learners who take responsibility for their own development and learning, both during their secondary studies and as enthusiastic lifelong learners.

Qualification level findings

Clear alignment can also be seen at the qualification level. In particular the DP and Högskoleförberedande examen similarly acknowledge the:

- importance of providing a variety of options and/or pathways for students to pursue different aspirations, interests and abilities—the DP through its structure allowing students to select subjects at SL or HL and across different subject groups, and the Högskoleförberedande examen through its different national programmes
- importance of developing students' subject knowledge, critical thinking and independent study skills, cultural understanding, communication, and reflectiveness
- need to employ a range of student-centred learning and teaching strategies which encourage independent thinking and reflection. Furthermore, collaborative activities and activities linking learning to practical and real-world contexts are strongly encouraged
- need to effectively monitor learner progress and understanding through formative assessment, to provide regular constructive feedback, and to adopt appropriate differentiation strategies.

Subject level findings (sciences)

Similarities

- Both educational systems have similar aims for students to develop key subject knowledge and skills, including practical and experimental skills. In addition, both utilize research to support the development of students' curiosity and creativity.
- The learning outcomes for the DP and Högskoleförberedande examen science courses are similar, intending to develop students' knowledge and understanding of concepts and theories, and their ability to apply their knowledge and skills in a practical setting. Both systems emphasize conducting experiments and analysing findings.

Differences

- In contrast, the DP science courses do not include the Högskoleförberedande examen's aims for students to develop a specific scientific perspective or to be able to "distinguish between statements based on scientific and non-scientific foundations" (Skolverket n.d.). Additionally, having an understanding of the development of theories and models is more of a focus in the Högskoleförberedande examen than in the DP.

Content coverage

- The DP includes wider coverage of science topics. This is likely a reflection of the different structure and number of courses within each programme. Nonetheless, many of the Högskoleförberedande examen topic areas can be similarly identified within the DP content curriculums in the three subjects examined.

At the individual subject level, researchers identified the following findings.

- In biology, many topic areas are shared between the programmes, including cell and molecular biology, human physiology, and experimental and practical skills. Some differences were found in the focus or taught content, for example in human development and microorganisms.
- In chemistry, similar topic areas are taught in both programmes, including chemical kinetics and equilibrium, measurement using mass spectrometry, and biochemistry. While some of the Högskoleförberedande examen content was only taught at the HL level in the DP, DP chemistry SL covers a larger breadth of topics.
- In physics, both programmes cover similar content with regard to oscillations, reflection and refraction, and motion and force. Practical skills, including evaluation and analysis of information, are also taught similarly. Some of the Högskoleförberedande examen content was only taught at higher level in the DP.

Assessment

- The two qualifications have similar expectations for the science subjects on what students should be assessed on or should be able to demonstrate. Both require for students to be able to formulate hypotheses, conduct experiments, and interpret and justify results and conclusions. Additionally, both systems require the assessment of practical skills. Most importantly, there are similar expectations for students to demonstrate higher-order thinking skills.

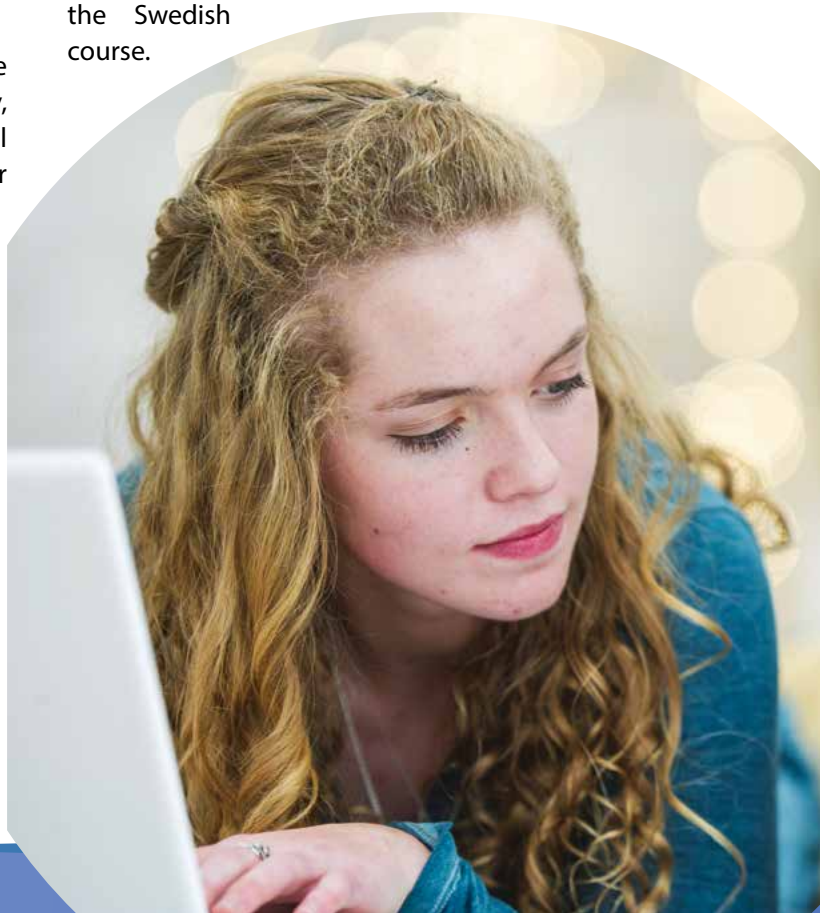
Subject level findings (mathematics)

Similarities

- The study found that the DP mathematics courses examined (mathematics HL and SL, and mathematical studies SL) employ similar aims to those in the Swedish mathematics courses, with both focusing on developing students' knowledge, understanding and ability to apply their skills, and on challenging students to build their confidence in mathematics.
- Similar expectations are set across the learning outcomes for all of the DP and Swedish mathematics courses examined, including for students to use mathematical concepts, formulate and solve problems with and without tools (such as calculators), apply mathematics to the real-world, understand its importance in other contexts, and communicate mathematically.

Differences

- The learning outcomes differ to a small extent, in that the DP mathematical studies SL subject places less focus on students' ability to design a mathematical model, an intended outcome in the Swedish course.



Content coverage

- Similar mathematics topics are covered between the DP and Swedish courses overall, including problem solving, use of tools (such as calculators), application of mathematics to other subjects, and issues related to the cultural history of mathematics.

More specifically at the individual subject level, researchers identified the following findings.

- DP mathematics HL includes full coverage of content in the Swedish mathematics 3c, 4 and 5 courses.
- DP mathematics SL has similar coverage of the Swedish mathematics 3c, but fewer topics in common with mathematics 4 and 5.
- DP mathematical studies SL shares few topics with the Swedish courses and compares to a lesser extent overall with the Swedish mathematics courses examined in this study.

Assessment

- With regards to assessment methods and cognitive demand, both programmes set similar expectations for students to be able to demonstrate knowledge of key concepts, problem-solving, mathematical reasoning, mathematical models, and the use of digital tools within their assessments. The minimum requirements to pass the Swedish mathematics courses are comparably assessed in the DP mathematics courses. Similar requirements are set for a top grade in the Swedish courses and a high mark in the DP internal assessments. This includes expectations for students to demonstrate a high level of accuracy and completion of mathematical processes with no errors.

Summary

Overall, the study found clear and substantial similarities between the DP and the Höskoleförberedande examen, both in terms of their underpinning philosophies and the recommended learning approaches. The aims of the programmes are broadly similar and while some differences in the content areas covered were noted, the DP nonetheless covers a significant proportion of the Swedish content and also includes additional valuable

subject content. Further, the DP assessments demonstrate comparable knowledge expectations to the Swedish subject requirements. This would indicate that IB World Schools in Sweden would be well equipped to deliver the DP in a way that is compatible with the overarching aims, goals, curriculum and assessment expectations of the Swedish system.

Reference

Skolverket. *Biology*. n.d. <https://www.skolverket.se/download/18.189c87ae1623366ff37494/1521539746417/Biology-swedish-school.pdf>.

This summary was developed by the IB Research department. A copy of the full report is available at ibo.org/en/research/. For more information on this study or other IB research, please email research@ibo.org.

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