

# A Qualitative Study of the Jordanian National Curriculum and its Propensity for Student-Centred Teaching and Learning

## **Abstract**

This dissertation seeks to explore the propensity of the Jordanian National Curriculum of Science and Social Studies for the incorporation of Student-Centred (SC) pedagogy to teaching and learning in International Baccalaureate (IB) World Schools in Amman. A qualitative and interpretivist methodological approach was adopted to investigate whether the National Curriculum accepts a more SC pedagogical method. This was achieved through documentary analysis of grade three's Science and Social Studies teacher's guides, textbooks and mission statements of the 11 IB World Schools and through interviews with stakeholders.

Bernstein's (2000; 1977) sociological theory of pedagogy formed the theoretical basis of my analysis. The findings of the documentary analysis revealed a somewhat constructivist aspiration to pedagogy. However, the collection code of the curriculum, time constraints and high pupil to teacher ratio hindered the effective use of SC approaches. The interviews revealed a lack of understanding of the concept of Student-Centred Education (SCE). Furthermore, curricular content, cultural and societal restraints and technical barriers proved a further limitation to the incorporation of SCE. This research concludes with recommendations for future research.

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I dedicate this piece of work to my family, who has provided me with unconditional love and support throughout.

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## Abbreviations

EFA	Education for All
ERFKE	Education Reform for a Knowledge Economy
GDP	Gross Domestic Product
HDI	Human Development Index
IB	International Baccalaureate
IBCC	International Baccalaureate Career-Related Certificate
IBDP	International Baccalaureate Diploma Programme
IBE	International Bureau of Education
IBO	International Baccalaureate Organisation
ICT	Information and Communication Technology
JEI	Jordan Education Initiative
MDG	Millennium Development Goals
MOE	Ministry of Education
MYP	Middle Years Programme
NGO	Non-Governmental Organisation
ORF	Official Recontextualising Field
PRF	Pedagogic Recontextualising Field
PYP	Primary Years Programme
SC	Student-Centred
SCE	Student-Centred Education
TC	Teacher-Centred

TCE	Teacher-Centred Education
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USD	United States Dollar

## 1. Introduction

This dissertation seeks to explore the pedagogical approaches used within the Jordanian National Curriculum and how Student-Centred Education (SCE) relates to these in primary schooling in International Baccalaureate (IB) World Schools in Amman. In this project, I adopt an interpretivist approach to first investigate through documentary analysis, the pedagogical approaches mediated and emphasised within the Science and Social Studies teacher's guides and textbooks of grade three, and within the mission statements of the eleven IB World Schools in Amman. Secondly, to interview key stakeholders in the field of education on their perspective of the National Curriculum and how SCE relates to these.

The study of SCE and its implementation as part of the recent wave of educational reforms in the global South has been the focus of many researchers over the years (see Schweisfurth, 2011; Sriprakash, 2010; Croft, 2002). Indeed, the study of the implications of this Western pedagogy is of central importance to the understanding of the roles of the teacher and student within a constructivist approach and how these are mediated in the school curriculum. Previous research that explored the implication of SCE in the global South identified a few barriers that hindered its effective application such as its complete disregard of the cultural and societal structures of the context it is set in as in the cases of Malawi and Botswana (Croft, 2002; Tabulawa, 1997). In the context of Jordan however, although recent educational reforms have focused on promoting active learning, Teacher-Centred (TC) approaches remain prevalent in teaching and learning in Jordanian school, especially in Science teaching (Qablan et al. 2010). For this reason, I set out in this project to explore the propensities of the National Curriculum for the incorporation of a Student-Centred (SC) approach to teaching and learning of Science and Social Studies

specifically in IB schools, where SCE is supposedly emphasised and teachers go through sufficient professional development (Hallinger and Lee, 2012).

The structure of this dissertation is set out as follows: chapter two presents the literature review, in which key curricular and pedagogical concepts are addressed by referring mostly to Bernstein's sociological theory of pedagogy (1977; 2000), before introducing SCE and the major debates that surround it and finally, presenting an overview of the IB educational setting. Chapter three presents the context of Jordan by providing a brief overview of its socio-economic and cultural background before addressing the status of education in Jordan and key research on the pedagogical strategies used in schools. Chapter four discusses the methodology and research design of this project, which takes an interpretivist approach and employs documentary analysis and semi-structured interviews as research methods. Chapter five provides the key findings, analysis and discussion of both the documentary analysis of the Science and Social Studies teacher's guides, textbooks and mission statements of the IB World Schools and the findings from the interviews. Chapter six concludes by synthesising the main findings, relating these to the literature and providing recommendations, before reflecting on the process and limitations of this project.



## 2. Literature Review

This section provides the overarching background and the theoretical and analytical framework adopted for the dissertation. Section one of this literature review discusses the process by which knowledge enters the classroom through recontextualising pedagogic discourse and also describes the pedagogic models that surface as a result. Section two addresses key concepts in the research questions and also referred to in the relevant empirical research presented in the section on context. Section three presents the notion of SCE and addresses some of the debates that surround this pedagogy. Section four provides an overview of the IB, an example of an educational programme that promotes SCE and also the setting in which this research takes place.

### 2.1 The Recontextualising of Pedagogic Discourse

This part of the literature review provides an understanding of knowledge and how it gets recontextualised into pedagogic discourse and related pedagogic models, by referring to Basil Bernstein's sociological theory of pedagogy.

Through his sociological theory of pedagogy, Bernstein (2000) attempts to uncover the underlying principles of transforming knowledge, which he refers to as 'relays,' to pedagogic communications inside the classroom. As such, Bernstein (2000) distinguishes between two kinds of knowledge; official/formal knowledge, which is obtained through educational and religious institutions, and informal knowledge, which is obtained through everyday interactions between people. Furthermore, according to Bernstein (2000), a distinction has to be made between what he calls 'language device,' which is a structure of formal rules that regulate the

way we communicate with one another, and between ‘pedagogic device,’ which is a structure of internal rules that govern the potential restriction or enhancement of pedagogic communications within a context. Both devices are settings for control and conflict where they contain an element of communication that could undermine the key device rules. The rules that govern the pedagogic device are the ones of concern in this discussion. Regarding this matter, Bernstein (2000), claims that the rules that control the pedagogic device are: ‘distributive rules, recontextualising rules and evaluative rules.’ This set of rules share a hierarchical relationship, beginning with the role of distributive rules in controlling the relationship between power, social groups and forms of consciousness. Recontextualising rules on the other hand, control the construction of specific pedagogic discourse, while evaluative rules make up pedagogic practices. Thus, it can be understood that the process of interaction between these three rules produces a particular pedagogic knowledge that is the result of a dominant ideology in a specific context i.e. ‘curriculum.’

As such, according to Bernstein (2000, p.33) “ pedagogic discourse is constructed by a recontextualising principle which selectively appropriates, relocates, refocuses and relates other discourses to constitute its own order.” In other words, through the recontextualising principle, a particular pedagogic discourse is created, which could not be recognised by and identified with the discourses it has recontextualised. Furthermore, Bernstein (2000) differentiates between two kinds of recontextualising fields that play a key role in the process of recontextualising pedagogic discourses. These are the ‘official recontextualising field’ (ORF), an arena controlled by the state and its relevant ministries i.e. ministry of education, and the ‘pedagogic recontextualising field’ (PRF), an arena controlled by educationalists, research journals and other related educational bodies such as universities and departments of education. What is of

significance here is the level of autonomy both of these arenas possess over the creation of pedagogic discourse; as in control over what pedagogic discourse to be constructed and distributed depends on which of these fields has effect over the process of producing pedagogic discourse. For instance, Bernstein (2000) suggests that there lies a higher level of autonomy over the construction and distribution of pedagogic discourses when the PRF is able to function independently of the ORF. However, when the ORF is the only arena in charge of this process there is no autonomy over the construction and distribution of pedagogic discourses and practices i.e. the production of curriculum. Moreover, the prevalence of a specific pedagogic discourse depends on the dominant ideology of the ORF and the autonomy of the PRF. Bernstein (2000) suggests that nowadays the state is trying to weaken the control of the PRF in an attempt to control the construction, distribution and the social settings of pedagogic discourse.

Furthermore, Bernstein (2000, p.32) explains that besides recontextualising pedagogic discourse, the pedagogic principle also recontextualises the instructional strategies and the theory that underpins the pedagogic discourse i.e. ‘the what and how’ of pedagogic communication. He also claims that ideology fills the gap that emerges from the transformation of discourse from one setting to the next: “no discourse ever moves without ideology at play. As this discourse moves, it is ideologically transformed; it is not the same discourse any longer.” This point will be further explored in part two of this literature review when addressing the relationship between social class and pedagogy.

As a result, Bernstein (2000) suggests that there are two kinds of pedagogic models that arise out of the recontextualised pedagogic discourse: ‘performance and competence models,’ which are two distinct pedagogic models that differ from one another on certain criteria such as discourse, evaluation, control, pedagogic text, autonomy and economy. For the purpose of this

research, I will only address some of the criteria and features of competence models, to which SCE belongs, as these are significant to the analysis and the discussion presented in later sections of this dissertation.

Bernstein (2000) argues that competence models share a specific recontextualised pedagogic practice, which involves a discourse that emphasises the use of group work, themes and projects, placing the student at the centre of the learning process. Additionally, the criterion for evaluation in competence models is based on the presence of certain competences, rather than the absence, i.e. the teacher looks for what is there instead of what is missing from the student's work. Moreover, Bernstein (2000) claims that for the educational institutions that follow this model, a higher level of autonomy is required for teachers in their selection, sequence and pace of the curricular content, thus competence models have more autonomy in their recontextualised pedagogic discourses and are less regulated by the state.

It is vital at this point to briefly discuss the circumstances that surround the rise of competence models in Europe, which to some extent contribute to the dominance of SCE in Western societies and its implications for educational reform in the global South, as shown in part three of this literature review. Bernstein (2000) claims that the British government i.e. ORF had no direct control over the selection and distribution of pedagogic discourse and practices in the late 1960s, which resulted in more autonomy for the PRF to push forward an agenda of a liberal progressive discourse that echoed with the ideologies of emancipation that were dominant oppositions to performance models at that time. Furthermore, Bernstein (2000) suggests that the autonomy that the PRF had especially in teacher training, gave rise to the adoption of competence models' pedagogic discourse because primary and secondary teachers were exposed to these newer models as part of their training by the PRF. Thus, from this point of view, one can

understand how curricular reform is basically a struggle between different groups to make their pedagogic position the dominant one in policy and practice.

Finally, this discussion would not be complete without addressing some of the critiques of competence models to which SCE belongs. Bernstein (2000) critiques the claim that competence models provide autonomy for teachers in the selection, sequence and pace of curricular content, because teachers in different contexts might not have the luxury to choose the curricular content. Additionally, Bernstein (1977) accuses competence models and their pedagogic practices of abstracting the acquirer from his/her cultural context and suggests that competence models are linked to symbolic control and hegemony of the middle class. Indeed, competence models comprise of invisible pedagogies, which are realised through weak classification and framing, unlike performance models that comprise of visible pedagogies with strong classification and framing. As such, switching from visible to invisible pedagogy entails a change in the code and principles of social relations and evaluation of knowledge. This change is achieved smoothly by middle class students, whose socialisation within the family contains both codes, thus privileging middle class over the working class students. Moreover, Bernstein (2000) claims that in competence models, the criteria for evaluation are implicit and known only to the teacher, thus the acquirer is oblivious to the time frame of the progress he/she is making. Therefore, any progress made by him/her is implicit and is solely known by the teacher, which is not emancipatory for the acquirer. Additionally, there are hidden costs related to the adoption of these models, of which Bernstein (2000) suggests that teacher-training programmes tend to be costlier and that teachers are required to give more of their time and energy in preparation of teaching.

## 2.2 Curricular Concepts and their Implications for Pedagogy and Social Order

In the second part of the literature review, it is crucial first to provide a conceptual framework and understanding of curriculum and pedagogy based on the work of Bernstein (2000; 1977) and Alexander (2001; 2000) before addressing the implications of curriculum and pedagogy on legitimising specific kinds of knowledge and privileging certain social groups by referring to the work of Apple (1990) and Anyon (1980).

Alexander (2000, p.552) defines curriculum as “a series of translations, transpositions and transformations from its initial status as published statutory requirements or non-statutory guidance.” Claiming that this transformation begins with the curriculum being issued by the state (ORF) and ends with the understandings of curriculum objectives and the area of knowledge the student acquires in his/her classroom interactions; curriculum moves from being a document to a set of actions. On the other hand, Bernstein (1977) provides a more abstract view of curriculum, arguing that it is a set of principles that govern the relationship between units of time and the content to be filled in that time. While some contents are considered ‘high status’ and require an allocation of more units of time, others require less. Thus, these contents differ in the allocation of time and importance they are given and also they may either have an open or closed relation with one another. Bernstein (1977, p.88) refers to this closeness/openness relation as ‘classification,’ which he defines as “the degree of boundary maintenance between contents.”

As such Bernstein (1977) distinguishes between two general codes for curriculum: ‘the collection and integrated models.’ The collection code differs from the integrated code of curriculum in the fact that its contents share a closed relation with one another (strong classification) i.e. each subject is regarded as a separate content that does not share any relation

to the other contents. In this code the student is expected to study a combination of several 'high status' subjects with other lower status ones and often take an external examination for the purpose of evaluation. The integrated code on the other hand shares an open relation with its contents (weak classification) i.e. there are relatively no boundaries between subjects, for example there is no fixed time allocated for each subject as these contents have an open relation with one another.

Additionally, Bernstein (1977) claims that there exists an underlying idea or concept in the integrated code that is dominant and leads to the subordination of the contents to this idea by reducing the barriers between these contents, i.e. the syllabus of each subject is dominated by a common idea, which commands the use of a specific pedagogy throughout the contents. As such, these subjects become explicitly part of a greater whole. In the collection code on the other hand, the subjects do not lose their autonomy by the underlying concept. Each subject has a separate syllabus and the use of different pedagogies throughout the subjects is permitted. Bernstein (1977) makes a point here that variations of these codes do exist in different settings, as it is not a case of black or white where the curriculum either has to be entirely of the collection or integrated code. However, he does not elaborate further or gives examples of such variations.

Furthermore, Bernstein (1977) uncovers the arrays of social relationships that emerge out of these curricular codes, which he claims form the pedagogic identity of the student and is quite difficult to change once formed. In both codes the degree of control given to the teachers and students in their selection, pace and evaluation of knowledge varies, to which Bernstein (1977) refers as 'framing.' As such, it can be understood that the principles of both classification and framing of curricular codes, play a significant role in the power structure and control of knowledge acquisition and the pedagogic practices involved in the process.

Moreover, Bernstein (1977) suggests that in the collection code, there is a hierarchy in the educational relationship between the teacher and student, in which control is exercised over the student's ritualistic learning (strong framing). Bernstein (1977, p.82) also claims that in collection codes, knowledge becomes specialised as the student progresses in the educational system, which in his own words become almost like "private property with various kinds of symbolic fences, and the people who own the knowledge look rather like monopolists." Thus, students go through a screening process to determine their eligibility for receiving knowledge. Moreover, Bernstein (1977) claims that there is an implicit ideological base hidden in collection codes. As for the integrated code, due to the open relation that the contents have with each other and the common underlying concept that they share, education moves from in-depth handling of knowledge to a wider coverage of knowledge. This move affects the educational relationship between the teacher and student, placing more control in the hands of the student and a lesser role for the teacher in the process of teaching and learning (weak framing). Furthermore, unlike collection codes, there is an explicit ideological base in integrated codes.

Incidentally, these fundamental differences between both curricular codes highlight the tension that might arise when shifting from the collection to the integrated code. Bernstein (1977) argues that this shift causes tension in particular because of the different patterns of authority and control that arise out of both codes i.e. the educational relationship between teachers and students changes. Thus, to ease this transition, Bernstein (1977) strongly emphasises the need for the underlying idea or concept in the integrated code to be made explicit and for the evaluation criteria to be made clear.

It is necessary at this point, after introducing these curricular concepts and describing their functionalities to define pedagogy and provide an understanding of its link to the process of



teaching and learning within the social setting it is located in. Bernstein (2000) defines pedagogy as:

A sustained process whereby somebody(s) acquires new forms or develops existing forms of conduct, knowledge, practice and criteria from somebody(s) or something deemed to be an appropriate provider and evaluator --- appropriate either from the point of view of the acquirer or by some other body(s) or both.

(Bernstein, 2000, p.78)

Indeed, for Bernstein (2000), pedagogy does not just entail the acquisition of knowledge, but also the acquisition of the proper ways to behave i.e. conduct and the different practices used in order to obtain that knowledge. This definition presents a broad view of pedagogy, one that takes into account the discourse of both teaching and learning. Similarly, Alexander (2001, p.507) argues that pedagogy is defined “as both the act of teaching and the discourse in which it is embedded in.” Pedagogy does not just represent the interaction between teacher and student in the classroom but also engulfs the theories that underpin teaching and learning and the purpose of education in a given social setting. Furthermore, pedagogy is claimed to link teaching as an action to culture and also to the devices of social control (Alexander, 2001; 2000). Thus a vital point to be drawn here according to both authors is that to be able to compare between pedagogical practices across different settings, one must take into account the culture and social setting pedagogy occurs in.

On a final note, the implications of curriculum and pedagogy on legitimising specific kinds of knowledge and privileging certain social groups are too important to ignore in this discussion. Indeed, pedagogic interactions are perceived to convey hidden ideological messages, therefore curriculum and pedagogy are not neutral (Bernstein, 2000; Apple 1990). Additionally, social control and the structures of authority and power are claimed to be achieved through the different

curricular codes and pedagogical models that exist in a certain context (Bernstein, 1977). Classrooms, where the curriculum is enacted through the different pedagogical practices, are perceived to have a major role in legitimising/delegitimising certain knowledge and pedagogical identities (Bernstein, 2000). Indeed, Apple (1990) argues that schools do not just ‘process’ knowledge but that they also ‘process’ people, contributing unintentionally to the reproduction of cultural and economic inequalities in a given setting through legitimising certain knowledge and skills. As such, it comes as no surprise that curriculum of the collection code is more prevalent in schools compared to the curriculum of the integrated code, partly because of the position of each school in the production of what Apple (1990) calls ‘high status knowledge.’

Furthermore, an empirical study by Anyon (1980) illustrates how schools provide different pedagogic experiences to students of different social classes. Indeed, Anyon (1980) argues that a hidden curriculum lies in the pedagogic discourse of schools, which contributes to the development of the individual’s relationship to the market, physical capital and power. As such, through classroom observations of pedagogical interactions between teachers and students and through analysis of the school work demanded of students in five schools of different social class settings, Anyon (1980) is able to find significant differences in the pedagogic interactions and school work given to students of the five schools based on the social class these students belong to. As such, she claims that the higher the social class of students, the more use of various teaching resources by teachers, more time spent by teachers on preparation for class, higher expectation of students’ achievement, increased positive attitude toward the contributory potential of students in the market. Anyon (1980, p.89) concludes: “‘The hidden curriculum’ of school work is tacit preparation for relating to the process of production in a particular way.” Thus, it can be understood that through their pedagogic practices, schools legitimise certain

knowledge and serve certain social groups, leading to the acquisition of diverse cognitive and behavioural skills that play a role in developing students' relationship to the market, physical capital and power (Apple, 1990; Anyon, 1980).

### 2.3 Student-Centred Education: the Way Forward?

SCE, a key concept used in the research questions of this dissertation, is addressed in this part of the literature review. A brief overview of its rationale and theoretical background is introduced before addressing some of the issues that result of its application as a part of the educational reforms inspired by the EFA and MDG goals in the global South.

SCE, also referred to as Child or Learner-Centred Education in the literature, is a Western pedagogical framework that emerged as a response to Teacher-Centred Education (TCE) and has been the focus of recent educational reforms in the global South (Schweisfurth, 2011; Sriprakash, 2010; Croft, 2002). Although there are slight differences between the concepts 'Child/ Learner-Centred Education' (see Van Harmelen, 1998), which I have addressed in previous work, the term SCE is used here in reference to the pedagogical similarities shared between these concepts. As such, in Bernstein's (2000) terms, SCE is seen as an example of a competence pedagogic model that emphasises the role of the student as an active agent rather than the teacher in the process of construction and acquisition of knowledge, by placing greater control in the hands of the student over his/her classroom interactions (Sriprakash, 2010). Thus, unlike TC pedagogy, SCE promotes the use of more active pedagogic practices in the classroom i.e. higher order questioning, smaller groups, more time devoted to each student and co-operative learning (Westbrook et al., 2013).

The rationale behind the adoption of SCE can be attributed to the dominance of a cognitive psychology approach based on the work of mainly Piaget and Vygotsky, in which the optimum learning of the individual occurs when he/she is actively involved in his/her construction and acquisition of knowledge (Schweisfurth, 2011). Indeed, as discussed earlier in part one of this literature review, in the late 1960's the PRF had some autonomy over the production of pedagogic discourse particularly in the UK, which gave rise to the adoption of pedagogies influenced by this cognitive psychology approach that was dominant at the time i.e. SCE (Bernstein, 2000). Furthermore, from a development perspective, SCE is claimed to transfer democratic values and ideals such as voicing opinions and engaging in public domains, all of which are vital for the development of democratic nations (Schweisfurth, 2011). As such, in recent years, there has been a noticeable move from TCE to SCE in curriculum reforms not just in developed countries, where this pedagogy arose but also in developing ones (Westbrook et al., 2013).

The learning theories that underpin the notion of SCE and justify its rationale are Constructivism and Social Constructivism, which are predominately based on the work of Piaget and Vygotsky respectively. In Constructivism, the individual learns by 'assimilation,' which is a process that occurs when the individual builds on the cognitive structures (schemas) he/she possess by actively engaging in his/her surroundings. However, when these schemas are not able to handle a new concept, the process of 'accommodation' occurs through which the individual adjusts the existing schemas he/she already has to accommodate this new situation and thus learning occurs. In Social Constructivism on the other hand, learning is perceived to be a social process, which depends on the interaction between the student and his/her peers. Moreover,

Language, which the student has to be familiar with, is crucial to the acquisition of knowledge in Social Constructivism (Westbrook et al., 2013).

Piaget claims that children undergo four stages of cognitive development (Sensori-Motor, Pre-Operational, Concrete and Formal Operational Stage), which they go through gradually at their own pace by interacting with their surroundings and developing a more complex approach to learning as they move from one stage to the next. As such, teaching outcomes will be achieved if and when the cognitive development stage of the student is taken into consideration (Donaldson, 1978). Furthermore, the best possible atmosphere for learning is when the student is active in the construction and acquisition of knowledge rather than just being a recipient. For example, when teaching the concept of classification in science, making the students sort out objects would be better than telling them how to sort or through observation (Brainerd, 1978). Thus, pedagogies such as SCE that use active learning are considered superior over TC pedagogies. Although Vygotsky agrees with Piaget on the importance of the student's role in the process of learning, he emphasises the significance of play in the learning experience of the student. Indeed, play and self-discovery are claimed to be crucial for the development of concepts for students (Daniels et al., 2007). As such, Vygotsky stresses the importance of school curriculums to involve active and critical thinking activities that require students to collaborate with their peers in the social setting of education (Donaldson, 1978).

Despite the bearing of SCE as a pedagogy that places the student at the centre of the learning process, there are issues reported regarding its implementation, especially in the global South (Sriprakash, 2010; Akyeampong et al., 2006; Tabulawa, 1997). The literature addressing its implementation in the global South suggests that the use of this Western pedagogy is claimed to take no consideration of the local culture and the context it is set in. Indeed, Croft (2002) for

instance, reports that although the use of pedagogical practices such as engaging students in singing, is encouraged in SCE in Malawian schools, teachers use this practice to subdue the large number of students in class. This suggests that SCE would require a lower pupil to teacher ratio, something that would be problematic in settings where there is a high pupil to teacher ratio. Moreover, Tabulawa (1997) claims that SCE disregards the construction of the 'student' in different contexts; suggesting that it conflicts with the patriarchal and traditional view of the 'student' within the culture of Botswana for instance. Thus, SCE does not seem to take into account the context and cultural values of the settings it is brought up in, something that is deemed to be crucial to both Alexander (2001) and Bernstein (2000) as discussed in part two.

Furthermore, the literature suggests issues arising when shifting from TCE to SCE, due to the epistemological and theoretical differences between both pedagogies. Indeed, Tabulawa (1997) for instance, claims that the implementation of SCE in Botswana faces challenges because teachers have a TC mindset that is contradictory to what SCE proposes. Thus, switching to SCE would result in rejection of this pedagogic model because of its different views on the role of both teachers and students in the process of teaching and learning. As such, to resolve this issue, Tabulawa (1997) suggests going beyond technical solutions to focus instead on analysing the implementation of SCE in relation to the views and previous educational experiences of the teachers and students who are adopting this pedagogy. Additionally, Tabulawa (2003) highlights the role of aid agencies such as the USAID in promoting SCE in the global South on the grounds of it being more effective and producing better educational outcomes. He, however, claims that the hidden purpose of aid agencies in promoting SCE is to spread democratic ideals and Western values as part of the process of modernisation. As such SCE has become a pre-requisite of receiving aid in certain sub-Saharan African countries such as Botswana.

## 2.4 The International Baccalaureate (IB)

This part of the literature review introduces the IB; which is an example of an educational programme that promotes the use of SCE and is the educational setting in which this research project takes place. A critical in-depth analysis of the IB is beyond the scope of this dissertation. Accordingly, an overview of its mission statement and programmes are presented before sampling some of the evaluative studies that promote its use in the global South in particular and also highlight some of its limitations.

The International Baccalaureate Organisation (IBO) is a non-profit educational organisation that was founded in 1968 in Geneva, Switzerland, with an aim to “develop inquiring, knowledgeable, and caring young people who help to create a better and more peaceful world through intercultural understanding and respect” (IBO, 2014). As an educational foundation, it prides itself for offering high quality education that encourages critical analysis, reflexivity and advance research skills, with a focus on international mindedness and instilling a sense of awareness of one’s own culture and identity. These ideals are reinforced by the IB Learner Profile (see Appendix A), which translates the mission statement of the IB into ten learning outcomes that are achieved by the student (IBO, 2014).

The IB works hand in hand with schools, governments and international organisations to develop rigorous curricula and assessments that help students become lifelong active learners by offering four challenging programmes that target students between the ages of 3 and 19. These programmes are: the IB Primary Years Programme (PYP), which is aimed at students of ages 3 to 12, focuses on the development of the student as a whole and emphasises his/her role as an inquirer inside and outside the classroom and also encourages students to be active agents and

independent in their learning (IBO, 2014). These characteristics correspond to the teachings of SCE, which have been covered in the previous part of this literature review. The IB Middle Years Programme (MYP), which is directed towards students between the ages of 11 and 16, focuses on developing critical and reflective thinkers. The IB Diploma Programme (IBDP), which is aimed at students between the ages of 16 and 19, offers a challenging academic programme that prepares students for university. The IB Career-Related Certificate (IBCC) is the newest programme offered by the IB, which is also directed towards students between the ages of 16 and 19, and is specifically designed to cater the needs of students who are interested in a career-related learning (IBO, 2014).

Furthermore, the IBO ensures that its programmes are accessible to students of different socio-economic backgrounds by working with national, international, private and public schools around the world. Essentially, the IBO permits schools to offer one or more of its programmes in conjunction with other international or national educational programmes. As such, these schools are called IB World Schools and are authorised by the IBO to offer its programmes. Currently, there are over 3,807 schools around the world that are authorised IB World Schools (IBO, 2014). As explained in the introduction section of this dissertation, this research project takes place in an IB World School setting, where one or more of the IB programmes are offered in parallel with the National Education System. Moreover, in reference to Bernstein (2000), the IBO would be an example of a PRF institution that enjoys autonomy over the production and distribution of pedagogic discourse.

A study by Barnett (2013) on public schools that offer the IBDP in Ecuador claims that a difference in pedagogy is reportedly noticed among teachers who teach in an IB setting. Furthermore, a case study conducted by Pushpanadham (2013) in India suggests that the PYP is



favoured among primary students for a number of reasons such as its active, joyful and varied learning process, students' engagement in decision making, choice of projects and activities and also IB teachers' encouraging role in the process of learning among many others. Parents interviewed also express their approval of the PYP and claim that it meets their expectations. Moreover, another case study by Guler and Yaltirik (2011) claims that teachers in Turkey approve of the PYP as an educational programme that promotes international mindedness and inspires students to become inquirers and to contribute to the construction of knowledge. However, although the IB has support from academics, parents and students, who claim that it offers rigorous curricula and quality learning outcomes, the IB is far from being the perfect educational system. Guler and Yaltirik (2011) argue that the PYP is very demanding on the part of teachers and requires an abundance of paperwork and preparation done for each lesson, which teachers find to be overwhelming. Furthermore, IB programmes are claimed to be difficult to implement alongside the national curriculum, which leads to difficulties in their execution. In reference to Bernstein (2000), this clearly shows the demanding side of competence models that require more time and preparation on the part of the teacher, which they would see as a burden.

## 2.5 Summary

This section sought to review first, the process by which knowledge enters the classroom and explored the implications of competence models, which SCE belongs to. Secondly, key concepts such as pedagogy and curriculum were identified and their implications for social order were addressed. Furthermore, issues within the implementation of SCE in the global South were discussed; high pupil to teacher ratio, the construction of the student in Eastern societies and the TC mindset of teachers highlight the negligence of SC pedagogy in acknowledging the context and culture of the setting it is used in. Finally, the IB was introduced as an example of an

international school system that promotes the use of SCE within its programmes. Although the IB is claimed by some to be superior to other systems, critiques of it highlight the extra work demanded of teachers and the difficulty of operating the IB alongside national education systems.

### 3. Context

This chapter introduces the country context of Jordan. Section one provides a brief overview of the socio-economic, political and cultural background of Jordan. Section two on the other hand, offers insight into the policy and practice of the field of education in the Kingdom and addresses some of the issues and barriers to education by referring to relevant empirical studies.

#### 3.1 Country Context

Jordan is an upper-middle income country, with a population reaching 6.459 million as of 2013 and a GDP of \$33.68 Billion USD (World Bank, 2014). Situated in the heart of the Middle East, Jordan borders Syria from the North, Iraq from the Northeast, Saudi Arabia from both the South and East, and Israel and the occupied West Bank from the West. Jordan is considered to have a fairly young population; with nearly 70% of the population under the age of 30, which would be instrumental to national development if provided with opportunities for growth i.e. through education (UNDP, 2014). Compared to other middle-income countries, the Kingdom has a relatively high adult literacy rate of about 93.3% as of 2011 and has a score of 0.700 on the HDI (UNDP, 2014).

Historically, Jordan is a relatively young country; prior to gaining its independence from British colonisation in 1946, the Kingdom was known as ‘Trans-Jordan’ and was part of the Ottoman Empire for the duration of 500 years (Qablan et al., 2010). A Sunni Muslim country, Christians constitute 2.2 % of the population (The World Factbook, 2014). It is important to point out that Jordan “is not a homogenous collective. It consists of Chechens, Circassians, Syrians, Iraqis... and the majority of Jordan’s population is Palestinians” (Nasser, 2004, p.222).

Consecutively, to achieve a national identity especially during its formative years between 1950 and 1970, Jordan sought to promote pan-Arabism and pan-Islamism through its state discourse. Indeed, the Jordanian national narrative begins with Arab history and ends with legitimising Jordan as a post-colonial nation state (Nasser, 2004).

### 3.2 Education in Jordan

From a review of the World Data on Education document produced by UNESCO's International Bureau of Education (IBE, 2011) and the Ministry of Education's (MoE, 2010) philosophy and objectives of education (see Appendix B), it seems that the philosophy of education and the ideologies that underpin the national education system in the Kingdom are entwined with the Jordanian constitution, the principles of the Great Arab Revolt and the Islamic Arab civilisation. The national education system is geared toward achieving a high level of modernisation and productivity, which is relayed through its aspiration for freedom, human and economic development and justice. Indeed, the vision of education stresses the need for providing students with lifelong learning experiences that enables them to utilise their skills for economic and sustainable development (IBE, 2011).

Education in Jordan consists of three cycles: preschool, which involves 2 years of schooling; basic education, which is compulsory and consists of 10 years of schooling; and secondary education, which is optional and comprises of 2 years of either academic or vocational education (MoE, 2010). The MoE is responsible for realising the general objectives of education in Jordan through its central role at designing and implementing educational policies, establishing and governing public schools across the Kingdom and also supervising private educational institutions that offer the national education system and other educational programmes i.e. the IB

(IBE, 2011). As such, the number of public schools in Amman comprise of 745, whereas the number of private schools is 1201 (MoE, 2013). This clearly suggests the demand and the preference for private rather than public education; the reasons behind this could be attributed to poor quality teaching and high pupil to teacher ratio, which are often associated with public schooling (see for example Qablan et al., 2010). Aside from the national education system, international programmes such as the IB, which was first implemented in the context of Jordan in 1981, are offered as an alternative by a number of private schools in Amman. Indeed, there are currently 11 IB World Schools authorised by the IBO to offer one or more of the IB programmes, alongside the national education system in Amman (IBO, 2014). This is of significance because as explained in section four of the literature review, the educational setting in which this research project takes place is the IB setting.

As with the rest of the world, the Jordanian government has invested heavily in reforms to promote sustainable development. Indeed, with financial and technical support from the international community, the government initiated educational reforms over the past decade to help ‘modernise’ education in the Kingdom. These initiatives include the Jordan Education Initiative (JEI) and Education Reform for a Knowledge Economy (ERFKE), which implement innovative educational programmes that incorporate the use of ICT in active learning and promote quality lifelong learning (Al-Amoush et al., 2012 and Shirazi, 2012). Qablan et al. (2010, p. 166) however, claim that educational reforms have resulted in little change in classroom practices in Jordanian schools, especially in science teaching. Indeed, they argue that teachers’ perspectives are disregarded in educational reforms in the Kingdom; one teacher interviewed revealed difficulties in incorporating pedagogical changes within the classroom “I have no idea how I can change my teaching practices in science classes.” Some of the difficulties

teachers face are the large number of students per class, high number of classes allocated per teacher, the prevalence of teacher-centred pedagogies i.e. lecturing and rote learning and the fact that textbooks are the only resources available and are to be covered page by page. Mustafa and Cullingford (2008) agree with Qablan et al. (2010) and argue that textbooks are considered to be the primary resource in teaching and learning, especially in public schools. Indeed, teachers have little control over the selection and sequence of knowledge, which in turn affects their pedagogical practices in class. Furthermore, Al-Daami and Wallace (2007, p. 342) claim that curriculum development in Jordan is a highly centralised process “implementation is a process of hierarchically-controlled, outward diffusion, more or less dependent of teachers’ views.” In reference to Bernstein (2000) this clearly shows the tight control of the ORF in the construction of pedagogic discourse.

## **4. Research Methodology and Research Design**

This chapter gives the research questions, describes the research methodology, approach to the research, the research design and provides a discussion of the methods used for data collection and analysis, before addressing the ethical considerations and limitations of this research project.

### **4.1 Aim and Research Questions**

This dissertation focuses on exploring the pedagogical strategies emphasised within the National Curriculum and how these relate to SCE in primary schooling in Jordanian schools. As discussed in the introduction, literature review and context chapters, SCE has been widely promoted in recent educational reforms in the global South, as a pedagogy that claims to improve the educational experience of the student; in SCE the student is perceived to be the centre of the process of teaching and learning. As such the main objective of this research project is to explore the alignment between the curriculum of Science and Social Studies, which are the two chosen subjects of the National Curriculum that I attempted to scrutinise, and key stakeholders' understanding of pedagogy and the propensity for the National Curriculum to incorporate Student Centred pedagogy in IB World Schools in Amman.

The two main research questions include:

1. What understanding of pedagogy and classroom instruction does the Jordanian National Curriculum of Science and Social Studies assume?

2. What are stakeholders' perspectives of the National Curriculum of Science and Social Studies and how do these relate to SC pedagogy?

To answer both research questions, the following sub-questions are set up, based on my conceptual understanding of pedagogy and the interrelations between the teacher and student as addressed in the literature review:

- What is the role of the teacher?
- How is the student perceived in the Science and Social Studies National Curriculum?
- How does SC pedagogy seem to align with the guidelines to teachers in the National Curriculum of Science and Social Studies and what barriers, if any, does the curriculum pose to the effective implementation of SC pedagogies in primary schooling in Jordan?

The first main question is to be addressed primarily through documentary analysis, while the second main question is to be addressed through interviews with key stakeholders in the field of education.

## 4.2 Approach to Research

This research project takes a qualitative approach; one that places emphasis “on the ways in which individuals interpret their social world” (Bryman, 2008, p.23). The research questions of this dissertation involve an understanding of how knowledge is constructed and relayed in the curriculum and what understandings certain individuals have of the social world around them. As such, in agreement with Thomas (2013), I adopt an interpretivist approach to exploring the



interplays between teachers and students within the Jordanian context and the propensity for SCE in the National Curriculum of Science and Social Studies in IB World Schools.

Consequently, I have developed my own understanding of SCE, curriculum and pedagogy through engagement with key theorists relevant to this area and through my own professional experience working in an IB setting and then have drawn upon these to inform my research design and research analysis.

The rationale for choosing the IB as the educational setting in which this research explores the implementation of SCE within the Jordanian National Curriculum of Science and Social Studies is attributed to a number of factors as described by Hallinger and Lee (2012). Firstly, IB World Schools go through a very demanding procedure to gain authorisation from the IBO to offer any of the IB programmes. This suggests that these schools meet the criteria of the IBO, which requires schools to be well-resourced technologically i.e. availability of interactive boards and computer and science labs. Secondly, IB World Schools generally have low pupil to teacher ratio, which facilitates the use of SC practices. Thirdly, IB teachers and staff go through continuous professional development and training, which equips them with the necessary competences to ensure that the IB ideals are appropriately conveyed in their teaching practices. As such, these factors combined provide excellent conditions to examine the suitability of SCE within the National Curriculum of Science and Social Studies and allow me to specifically consider whether either or both subjects (guidelines, practices, content) act as a barrier or facilitator to the use of SCE in the Jordanian educational context. As discussed in the final section in the literature review, IB World Schools are allowed to offer any or all of the IB programmes in conjunction with the local programmes offered. Thus, most of the 11 IB World

Schools in Amman fit this criterion, while a small number of these schools use the textbooks of National Curriculum as one of many resources in their approach to teaching.

#### 4.2.1 Positionality

An interpretivist approach to research according to Thomas (2013) involves an understanding of the social world we are interested in and this requires us as researchers to immerse ourselves in the research context. Therefore, my extensive knowledge of this context as a Jordanian citizen, as a product of the Jordanian Educational System and as a former school counsellor at one of the IB World Schools in Amman, plays a central role in understanding and interpreting these cultural and societal structures. Additionally, an understanding of the construction of the child, the role of the student and teacher in the acquisition and construction of knowledge, construct the pedagogic discourse. Furthermore, my familiarity with the context and having a past working relationship with some of the respondents puts me in a position of advantage for understanding their perspectives of the curriculum, the IB and SCE. As such my interpretivist and constructivist approach to research, demands an active involvement as a researcher in this context and thus my positionality contributes to the understanding of the National Curriculum of Science and Social Studies, the use of SCE and the IB setting.

#### 4.3 Research Methods

In order to enhance the validity of my research about the suitability and alignment of SCE within the National Curriculum, the use of more than one method is deemed necessary. According to Kane (1995), triangulation of data and methods helps to address the phenomenon from more than one perspective, reinforces the findings and also reveal any disagreements that result from the use of a certain technique.

### 4.3.1 Documentary Analysis

Documentary analysis was chosen as a research method to answer the first research question due to the nature of this project, which requires scrutinising the curriculum (content, guidelines, vision and mission statement of the MoE) to uncover the understanding of pedagogy and classroom instructions as relayed in the curriculum. As it is difficult due to time constraints to examine the curriculum of Science and Social Studies for the full cycle of lower primary education (levels 1 -3), I have selected the curriculum of Science and Social Studies of level three. The key curriculum texts, which comprise of two textbooks (one per term) and the teacher's guide, were used as a source of data to help answer the research sub-questions set in this dissertation. Furthermore, my analysis of the textbooks has been selective; I conducted in-depth analysis on a small number of lessons I identified to be the 'most' SC from both the Science and Social Studies textbooks. Moreover, the mission statements of the 11 IB World Schools, which were accessed via the web, were also examined to help understand the alignment between the schools' and the MoE's vision of education and perspective on SCE.

One important advantage of using documents as a source of data for this research project is that these documents (textbooks, teacher's guides and mission statements) provide an understanding and insight into the curriculum, which as discussed in the literature review chapter, acts as a relay for particular kinds of knowledge and ideologies. It is crucial when using this method according to Cohen et al. (2013), to consider the wider context and the underlying values conveyed in these texts as these would affect the practices used by teachers in class.

### 4.3.2 Interviews

Semi-structured interviews were chosen as another method for data collection to help understand the perspectives of key stakeholders within the field of education on the National Curriculum, the implementation of SCE and also to help identify any barriers that stand in the way of its effectiveness within Jordanian schools. Kane (1995) suggests using interviews because most importantly, they are usually rich in content and offer an insight into the respondents' viewpoints on a particular phenomenon. As such, an interpretivist stance entails an understanding of how these stakeholders view the world and their interpretations of interplays between both teacher and student within the teaching and learning process.

Furthermore, unlike structured interviews, semi-structured interviews are flexible, allowing room for comments and deviation from the interview schedule as appropriate to follow up a point made by the respondent, and they potentially allow a wide range of topics to be covered which can be adjusted to accommodate changes before or during interview. Moreover, the use of documents as a research method requires the employment of other methods i.e. interviews to explore the reality and the setting these documents are created in (Bryman, 2008). The interview schedule I had developed was constructed with the research questions in mind and incorporated Kvale's (1996) nine types of questions to include in semi-structured interviews (introducing, follow-up, probing, specifying, direct, indirect, structuring, silence and interpreting questions). Interviews comprised of approximately 20-30 minutes, were audio recorded, conducted in Arabic and transcribed verbatim. As suggested by Bryman (2008), the interview schedule was piloted with the first respondent (head-teacher 1) to ensure that the topics covered were of relevance to the experience of the respondents and that the terminology used i.e. SCE, pedagogy etc... moved across both languages and were easily comprehended.

#### 4.4 Sample

Purposeful sampling as suggested by Kane (1995) was deemed appropriate for understanding the perspectives on the curriculum and the use of SCE of particular key stakeholders in the field of education. These respondents were: 2 head-teachers and 3 teachers, who worked for 2 of the IB World Schools; 2 education specialists who worked for one of the educational initiatives that promote active learning and provide training on SCE; and 1 community organiser/head of programmes, who worked at an NGO and used SC practices in her work with community children. The respondents were specifically chosen because of their extensive working experience in either the IB setting, and/or knowledge of the Jordanian National Education System and their familiarity with SCE.

#### 4.5 Coding and Data Analysis

Thematic analysis, which is “one of the most common approaches to qualitative data analysis” (Bryman, 2008, p. 554), was used to analyse the textbooks, teacher’s guides, interview transcripts and mission statements of the 11 IB World Schools. The major themes developed were in line with the research questions and possible sub-themes within each major theme were developed as appropriate (barriers to SCE etc...).

As suggested by Bryman (2008) a framework, which was constructed with the research questions in mind, was developed for the systematic documentary analysis and coding of the curriculum textbooks and teacher’s guides (see Appendix C). Importantly, the curriculum textbooks and teacher’s guides are written in Arabic, therefore, the analysis and the working documents of this dissertation were developed in Arabic. Only direct quotes and/or sections of

the text that were used to illustrate a point in the findings, analysis and discussion chapter were translated to English. Additionally, the interview transcripts were coded using the research questions in mind and were translated into English (see Appendix D). Furthermore, the mission statements of the 11 IB World Schools, which are a paragraph long each, have been thematically analysed and coded using a similar approach (see Table 3).

#### 4.6 Ethical Considerations

My research was approved in the ‘low risk’ category by the Ethical Committee of the University of Sussex. I drafted the Consent Form and the Information Sheet for my research project and included these in my application to the review committee. I also made sure that I complied with University requirements in terms of safety and security.

As suggested by Bryman (2008), it is important to bear in mind the ethical principles when conducting social research. As such, all of the respondents were provided with the Information Sheet and had the research focus explained to them prior to being interviewed. Moreover, respondents signed the Consent Form, were given the choice to participate in the research project and were promised confidentiality and anonymity in all stages of the research project. All quotations provided in the analysis below are recognised using pseudonyms. Additionally, the interview transcripts were shared with the respondents to ensure that they have not been misrepresented in any way and to provide feedback if necessary. Subsequently, all of the respondents provided positive feedback for the interview transcripts, while one respondent questioned the cohesiveness of some paragraphs in her interview transcript, to which I explained that this was a result of having transcribed the interviews verbatim. Furthermore, although some

IB World Schools are identifiable through my analysis of the mission statements, I ensured not to make connections to the respondents to keep the identity of their workplace anonymous.

#### 4.7 Limitations

Ideally, as suggested by Bryman (2008), classroom observations would have been used as another method for triangulation to further enrich the data collected for this dissertation. However, the timeframe for data collection coincided with the arrival of the Holy Month of Ramadan, which resulted in the early closure of schools in Jordan. This has prevented me from conducting classroom observations in any of the IB World Schools in Amman. Furthermore, it is important to acknowledge the language limitation in this research; certain terminologies may not have a coinciding equivalent in Arabic, which might lead to misunderstandings or simply, produce a vague response by the respondents.

## 5. Findings, Analysis and Discussion

This chapter presents the main findings, analysis and discussion of the pedagogical approaches used and stakeholders' perspective of the National Curriculum and how SCE relates to these. Section one addresses the first main research question: What understanding of pedagogy and classroom instruction does the Jordanian National Curriculum of Science and Social Studies assume? This was explored through documentary analysis. Section two addresses the second research question: What are stakeholders' perspectives of the National Curriculum of Science and Social Studies and how do these relate to SC pedagogy? This was explored through interviews.

### 5.1 The National Curriculum's Description of Teaching and Learning and its Alignment with SC Pedagogy:

#### 5.1.1 Within the Science and Social Studies Teacher's Guides

My initial analysis of the theoretical framework and instructional teaching strategies presented in the teacher's guides pointed to a pedagogic discourse that advocates the use of 'active learning' in the process of teaching and learning. Essentially, the Science teacher's guide (2007, p.316) and Social Studies teacher's guide (2007, p.164) describe learning "as an act that is performed by the learner, not the teacher" [my translation]. Indeed, pedagogies that call for teachers to have an active role while students assume a passive role are regarded in the teacher's guides as 'traditional' and are therefore criticised. Instead, what is emphasised is a preference for varied and balanced strategies, which place the student at the centre of the learning process, to break the 'dull' teaching and learning pattern that is often associated with traditional teaching



strategies. As such, the student is perceived in the Science teacher's guide (2007) and Social Studies teacher's guide (2007) to have an active role in the process of learning:

To encourage the student to be a searcher of knowledge who analyses, recreates and constructs new knowledge; communicates with others by applying a work ethic which includes objectivity, to actively listen and respect others; to utilise critical thinking, inductive and problem-solving strategies in his/her decision making process; to be proficient in using ICT for searching, analysing, processing and presenting data; to value himself/herself. [My translation]

(Science teacher's guide, 2007, p.9; Social Studies teacher's guide, 2007, p.10)

Furthermore, the guides recommend that the pedagogy and instructional strategies that are to be chosen by the teacher answer the what, how and when of teaching and take into account students' stages of cognitive development. Thus, unlike a behaviourist framework, a constructivist approach to teaching and learning within these guides is assumed, which corresponds to the SC pedagogical approaches promoted by the recent educational reforms in the global South (Westbrook et al., 2013). Moreover, this constructivist approach that is assumed in the theoretical framework and instructional strategies of the curriculum resonates with Piaget's argument of the importance of considering the stages of cognitive development of the student in the process of teaching and learning as stated by Donaldson (1978). In reference to Bernstein (2000), this aspect of the curriculum shares some features with competence models that place the student at the centre of the learning process and advocate for the use of varied methods such as projects and group work in the process of teaching and learning, which SCE emphasises.

As such, the teacher's guides of Science (2007) and Social Studies (2007) adopt six different instructional strategies to teaching that the teacher alternates between, depending on factors such

as the curricular content and time allocated for each lesson. These instructional strategies can be grouped as follows:

❖ *Direct Teaching Strategy:*

As I stated above, although my initial analysis of the guides revealed a constructivist approach to teaching and learning, the first strategy highlighted in both guides, follows a behaviourist approach, in which the teacher is the centre of the educational process (Westbrook et al., 2013). Indeed, in using this specific strategy the teacher has the central role in providing knowledge readily to the students through various methods such as lecturing, questions and answers, worksheets, workbook exercises, demonstration and reading activities. The student on the other hand, assumes a passive role and receives knowledge readily by the teacher (Science teacher's guide, 2007; Social Studies teacher's guide, 2007). As such, when adopting this strategy, it is first recommended that the teacher prepare for the lesson by setting the educational outcomes and choosing the necessary tools for achieving these outcomes. Second, the teacher is advised to link the previous knowledge of the students to the newer one he/she is about to 'teach,' and lastly, the teacher is required to use different educational tools for evaluation (Science teacher's guide, 2007; Social Studies teacher's guide, 2007). Drawing on Bernstein (2000), this pedagogic practice resembles performance models that require the teacher to exercise control over aspects of the learning process, which gives little room for the student to contribute.

Importantly, the justification for using direct teaching strategies, when the curriculum purportedly promotes 'active leaning' is credited to high pupil to teacher ratio and time constraints, both of which make the implementation of SCE difficult (Science teacher's guide,

2007; Social Studies teacher's guide, 2007). This corresponds to the claims made by Qablan et al. (2010) and Mustafa and Cullingford (2008) on the high pupil to teacher ratio in Jordanian public schools, which affects the choice of pedagogy made by the teacher and contributes to the prevalence of TC pedagogies. As such, these two issues could act as a barrier to the effective implementation of SCE within the National Curriculum.

❖ *Inductive Teaching Strategy:*

Here the teacher helps students develop the cognitive skills necessary for inquiry, and for fulfilling their natural curiosity. The teacher's role when using this particular strategy revolves around choosing the educational situations that inductive strategies apply to; it is advised that the teacher begin the lesson by presenting an issue that is open to inquiry. Furthermore, the teacher prepares and facilitates the learning environment, challenges and motivates students with prompting questions and finally, directly responds to their questions or leads them to the means of answering those questions. The students' role on the other hand within this strategy, is to ask questions that would help them collect information to solve the problem at hand, if they fail to do so the teacher helps with forming hypotheses about the problem. With assistance from the teacher, students are then asked to modify these questions and analyse the process of induction (Science teacher's guide, 2007; Social Studies teacher's guide, 2007).

This strategy is clearly more SC than the Direct Teaching Strategy presented above; students within this pedagogy assume a more active role rather than remaining passive and receiving knowledge 'ready-made' from the teacher. Here they are actually given an opportunity to participate and contribute to constructing knowledge, albeit with the help and guidance of the teacher. Therefore, the teacher adopting this approach would be described as a 'facilitator' rather

than a ‘provider’ of knowledge, which corresponds to the description of SCE suggested by Sriprakash (2010) and Westbrook et al., (2013). However some aspects of teacher control are still apparent within this pedagogy; it is the teacher that prompts the students to inquire, he/she is the one setting the educational outcomes and the topic of choice. In reference to Bernstein (2000), students are participating but the teacher is the one ultimately in charge of the selection, pace and sequence of the learning process.

❖ *Problem-Solving Teaching Strategy:*

This third strategy, which is addressed in the guides, resembles the scientific-thinking approach to problem solving. Although there are similarities between Problem-Solving and Inductive Teaching Strategies, Problem-Solving Teaching Strategy requires reaching a set of objectives and a correct solution, while Inductive Teaching Strategies are more open-ended. As such, the steps of Problem-Solving Strategy are summarised as follows: 1. managing the problem; 2. collecting data related to the problem at hand; 3. identifying the problem and understanding its nature; 4. offering probable solutions; 5. setting up criteria for choosing the best solution; 6. testing out the solutions and choosing the best one; 7. setting up a plan to run the solution; 8. running the solution; 9. generalising the result (Science teacher’s guide, 2007; Social Studies teacher’s guide, 2007). The teacher’s role when using this instructional strategy is stated as:

Effectively utilise problem-solving teaching strategies; define the learning outcomes for each step of the Problem-Solving Strategy; use appropriate techniques to correct students’ mistakes in the process of learning problem-solving strategies; ensure that the students are well-informed of the requirements of problem-solving strategies and that they have mastered the principles and understanding of concepts needed for undertaking this strategy; manage time to provide students with opportunities to practice this strategy. [My translation]

(Science teacher’s guide, 2007, p.318; Social Studies teacher’s guide, 2007, p.166)

The students' role on the other hand, revolves around achieving a number of outcomes, which are set by the teacher, to find a solution to the problem. Additionally, students within this strategy are able to actively participate in the construction of checklists, which they would use as an evaluation tool, to check their progress against a list of acts/behaviours (Science teacher's guide, 2007; Social Studies teacher's guide, 2007). It is clear that within this approach to teaching and learning, the teacher is more of a facilitator rather than a provider of knowledge; he/she assumes a more supervisory role, while students are the ones performing the actual task of problem-solving. Therefore, this strategy is more aligned with SC approaches discussed by Westbrook et al., (2013), rather than with TC approaches as the teacher's role is limited to 'managing time, guiding and correcting mistakes.' Moreover, the use of evaluation tools such as checklists to assess the presence of certain competencies resembles some aspects of competence models as described by Bernstein (2000).

❖ *Group-Based Learning Strategy:*

The students' role in active learning is highly emphasised within this strategy; ideally, students work in groups of 4-6, where they collaborate, each with his/her group members and also compete with other groups to achieve the learning outcome set by the teacher. The fundamentals of group-based learning as mentioned in the guides are: 1. Positive collaboration, which claims to encourage a sense of dependence on and importance of all members of the group, is achieved by assigning a role to each member and by the collective evaluation of the work made by them. 2. Individual responsibility, as each member has a specific role, which aims to instil a sense of individual responsibility for the success or failure of the group. 3. Face to face interaction; verbal communication and voicing opinions are necessary for presenting the results of group work. 4. Personal skills; working with the rest of the group members, students acquire

social skills such as listening to others, dialogue, acceptance and decision making (Science teacher's guide, 2007; Social Studies teacher's guide, 2007).

This strategy clearly corresponds to Vygotsky's argument of the importance of peer interaction in the social setting of education, which highlights the need for school curricula to involve aspects of active learning and social exchange within the pedagogical approaches used (Donaldson, 1978). However, in reference to Bernstein (2000), same as in the Inductive Teaching Strategy mentioned above, students do not have full control over the selection, pace and sequence of knowledge construction. Indeed, the teacher within this strategy is ascribed the role of facilitating the exchange of opinions and actions within groups, observing verbal communication between group members, providing constructive criticism, following up on group work and using checklists and rating scales to evaluate students' progress (Science teacher's guide, 2007; Social Studies teacher's guide, 2007). Although, all of this is aligned with SC pedagogies as described by Westbrook et al. (2013), it is the teacher that ultimately has control over class interactions. The guides suggest that the teacher is to set the learning outcomes, decide the number of students per groups, prepare the learning resources needed and assign roles for each group (Science teacher's guide, 2007; Social Studies teacher's guide, 2007). This shows that even as a facilitator the teacher is still in control within this pedagogical approach and that students have limited autonomy over their learning process. The fact that students are 'sorted' into groups and 'assigned' a role by the teacher instead of being given the choice to do so, illustrates the extent to which SC pedagogies are mediated within the National Curriculum. Drawing on Bernstein (2000, p.45), this pedagogy resembles aspects of performance models, in which "acquirers have relatively less control over selection, sequence and pace."

❖ *Activity-Based Learning Strategy:*

As in Group-Based Learning, Activity-Based Learning strongly emphasises the role of the student in active learning, where the student undertakes a planned activity and is offered an opportunity to learn independently, collaboratively and take responsibility for his/her own actions. As such, Activity-Based Learning is suggested for examining unfamiliar situations and for in-depth exploration of a subject. Activities undertaken within this strategy include: debates, games, group discussions, storytelling, surveys, field trips, oral presentations, project-based learning and practicing. Furthermore, the teacher's role is to set the learning outcome, plan the learning activities, provide encouragement and support, encourage cooperation and evaluate the progress of students (Science teacher's guide, 2007; Social Studies teacher's guide, 2007).

It is clear that the student is given more autonomy and a chance to work independently in Activity-Based Learning rather than in Group-Based Learning. Based on the description provided in the guides, the teacher is a facilitator, who provides support and guidance to his/her students as they undertake the various activities listed above. Thus, it is safe to say that as a strategy, Activity-Based Learning is aligned with SCE and takes a constructivist approach to teaching and learning as described by Westbrook et al. (2013) and Sriprakash (2010). However, further analysis revealed a discrepancy between the description mentioned above and the guides' definition of the word 'activity.' Indeed, the Science teacher's guide (2007, p.320) and Social Studies teacher's guide (2007, p.167) define activity as "the cognitive or physical effort that the learner or teacher goes through to achieve a goal" [my translation]. The use of the words 'or teacher' seems to suggest that learning activities are to be carried out either by the student or the teacher, which does not agree with the constructivist approach mentioned in the description above.

❖ *Critical Thinking Learning Strategy:*

The sixth pedagogical approach mentioned in the teacher's guides is Critical Thinking Strategy, which is described as temporarily refraining from forming preconceived judgements and involves scrutinising knowledge instead. The skills taught within Critical Thinking Strategy include: 1. distinguishing between facts, claims, justifications and assumptions; 2. identifying the commonalities and discrepancies between two scenarios; 3. verifying the source of knowledge; 4. practicing problem solving skills. As such, within this strategy, the teacher has to choose topics and scenarios that incorporate critical thinking and devote time within the lesson for practicing those skills with the students (Science teacher's guide, 2007; Social Studies teacher's guide, 2007). However, the guides specify the use of direct teaching techniques to 'teach' students critical thinking skills. Indeed, further analysis revealed that the pedagogical practices suggested for teaching critical thinking are direct teaching strategies; the teacher has to demonstrate how to think critically by presenting different viewpoints and practicing with students. Furthermore, use of visual aids is welcomed and providing students with opportunities to discuss their ideas is encouraged. Students learn by observing the teacher, practice thinking out loud and presenting their viewpoints and justifications (Science teacher's guide, 2007; Social Studies teacher's guide, 2007).

This is an example of a somewhat TC approach to teaching and learning that contradicts the whole purpose of critical thinking; the teacher chooses the topic, presents different viewpoints and discusses these with students, which leaves little room for them to contribute and construct knowledge. Students are provided with knowledge on a certain topic and are asked to practice the skills of critical thinking. Thus, the teacher has a central role at the process of teaching and



learning when using this strategy, which relates to the description of TCE pointed out by (Westbrook et al., 2013).

### 5.1.2 Within the Science and Social Studies Textbooks

The analysis of the Science (2013) and Social Studies (2013) textbooks further contribute to the understanding of pedagogy and classroom instructions addressed above within the National Curriculum and its alignment with SCE. Tables 1 and 2 present a list of the units in grade three's Science (2013) and Social Studies (2013) textbooks and the allocated number of class periods per unit, which are prescribed by the MoE for teacher use.

**Table 1: Units and Allocation of Science Periods**

Unit	No. of periods per unit
1. Properties of Mass	8
2. Changes in Mass	7
3. Electricity	5
4. Properties of Plants	11
5. Force and Machinery	9
6. Water	12
7. Space	9
8. Earth, the Living Planet	4
9. Geological Processes	5
10. Life Cycles	7
11. The Relationship between Species and Environment	5
<b>Total</b>	<b>82</b>

(Source: Adapted from the Science Teacher's Guide, 2007; Science Textbook, 2013)

**Table 2: Units and Allocation of Social Studies Periods**

Unit	No. of periods allocated
1. The Universe around Me	16
2. The Environment and Recourses around Me	13
3. The Administrative Management of My Country	4
4. Life of the Prophet Mohammad	14
5. The Hashemite Family	5
6. Resource Facilities in My Country	6
Total	58

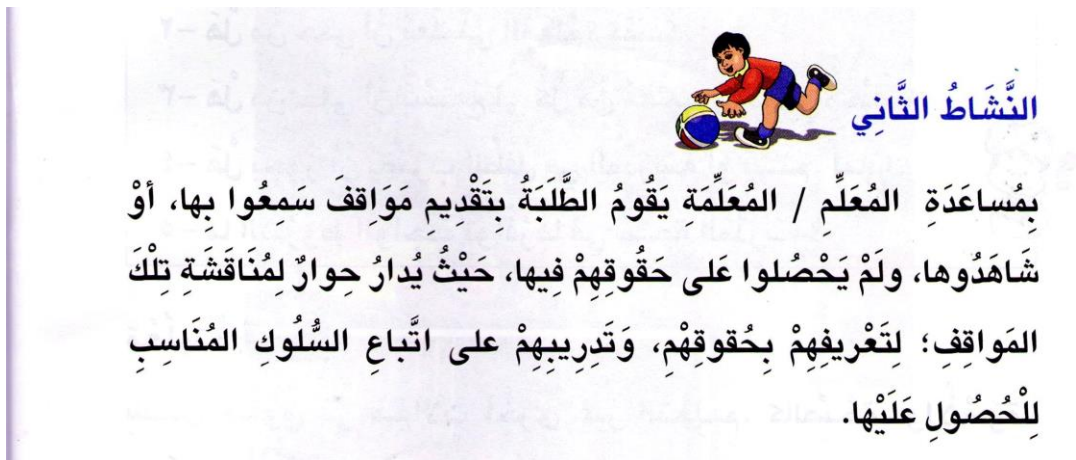
(Source: Adapted from the Social Studies Teacher's Guide, 2007; Social Studies Textbook, 2013)

In reference to Bernstein (1977), it is clear from looking at the total number of units in both tables that Science as a subject/area of knowledge is considered 'high status knowledge,' which is given greater importance in the National Curriculum over Social Studies. Furthermore, the strict allocation of classroom periods per subject and unit suggest 'strong boundaries' between these subjects, which indicate that they share a 'closed relation' with one another and therefore have 'strong classification.' Additionally, based on the level of control that the teacher has in the pedagogical practices mentioned in the teacher's guides above, 'framing is also strong,' which suggests that the National Curriculum is of the collection code. Drawing on Bernstein (1977), the collection code, which is claimed to affect the power structure between the teacher and students and the pedagogical practices involved, could explain why the SC pedagogies emphasised in the guides above are met with a somewhat constricted role for students.

To illustrate, the three activities presented in Lesson 2 of Unit 3 of the Social Studies textbook (2013, p. 83-84), which talk about the child's rights in school, are to be completed with

the direct involvement of the teacher, despite the fact that the pedagogical strategy recommended in the guide is Group-Based Learning Strategy (Social Studies teacher's guide, 2007, p.74). The second activity for example, reads:

With the help of the teacher, students present situations that they have experienced or heard about where their rights were not given. A discussion takes place where the teacher informs them of their rights and trains them in the proper way to attain them. [My translation]



(Social Studies textbook, 2013, p.84)

Although it appears that the students would be contributing and co-constructing knowledge within this activity, it is ultimately the teacher that provides them with the correct ways to attain their rights, thus illustrating the extent to which SCE is mediated in the National Curriculum. To further explain, the activity presented in Lesson 4 of Unit 5 of the Science textbook (2013, p.151), which is about the uses of simple tools, asks the students to try to open

two identical cans once with their bare hands and once by using a spoon, and concludes by providing them with the educational outcome, instead of having the students figure it out themselves:

In which situation do we easily open the can? Why?

What is the direction of force in both situations?

Through this activity, I notice that using a spoon produces little force. [My translation]

لماذا نستخدم الآلات البسيطة؟

نشاط

أولاً: أحتاج إلى:

علبتين مُتماثلتين

ملعقة طعام

ثانياً: الخطوات

– أحاولُ فتحَ غطاءِ العلبةِ بيدي.

– أستخدمُ الملعقةَ لفتحِ العلبةِ الأخرى.

• في أيِّ الحالتينِ تَمَكَّنُ مِنْ فَتْحِ غِطَاءِ العُلْبَةِ بِطَرِيقَةٍ أَسْهَلِ؟ وَلِمَاذَا؟

• ما اتَّجَاهُ القُوَّةِ فِي كُلِّ حَالَةٍ؟

ألاحظُ مِنَ النِّشَاطِ أَنَّ المِلعَقَةَ تَجْعَلُنَا نَبْذُلُ قُوَّةً أَقَلَّ.

١٥١

(Science textbook, 2013, p.151)

Although the Science guide recommends the use of Group-Based Learning as a pedagogical strategy for this particular activity (Science teacher's guide, 2007, p.102), which as discussed earlier is an example of a SC strategy as described by Westbrook et al. (2013), students

are provided with the conclusion, thus limiting their full participation in the construction of knowledge. Therefore, these two activity examples point out to a more restrictive role for the student in the process of learning despite the SC emphasis in the teacher's guides. Moreover, although the use of SC strategies such as Group and Activity-Based Learning are emphasised in the guides, it is ultimately the teacher who is in control of the activities undertaken. This illustrates the extent to which SC pedagogy is mediated in the National Curriculum, which as suggested by Bernstein (1977) could be the result of the collection code of the curriculum. As such, in addition to high pupil to teacher ratio and time constraints, the collection code of the National Curriculum could also act as a barrier to the effective implementation of SCE.

### 5.1.3 Within the MoE's and IB World Schools' Mission Statements

The analysis of the general objectives of education in the National Curriculum (MoE, 2010) revealed a pedagogic discourse that is highly religious and nationalistic in its nature, which stems from the principles of the Islamic Arab Civilisation and the Great Arab Revolt. This corresponds to the review made by the IBE (2011) on the general principles and ideologies of the education system presented in the context chapter. In reference to Bernstein (2000), this suggests that the dominant ideology in the National Curriculum would be identified as an Islamic ideology and that control of the construction and distribution of the pedagogic discourse is in the hands of the ORF, which could explain the legitimising of certain religious and political content (Units 4 and 5) in the Social Studies textbook (2013) presented in Table 2. As for its alignment with SCE, the fifth objective of the MoE's (2010) general objectives of education (see Appendix B) reads: "Think objectively and critically and adopt scientific methods in observation, research and problem-solving." This description of the student's role shows an inclination towards the use of

high order questioning and reasoning, which resonates with the description of SCE made by (Westbrook et al., 2013).

The mission statements of the 11 IB World Schools on the other hand, revealed a greater alignment with SCE and with the ideals of the IBO (2014), which are conveyed in the IB Learner Profile, while also complying with the MoE's philosophy on education. Table 3 presents the reoccurring themes in order of importance, which I have identified in my analysis of the mission statements.

**Table 3: Reoccurring Themes within the Mission Statements**

1. Lifelong learners
2. Responsible citizens and open-minded individuals, who respect others
3. Maintain the Arab heritage and pride in their national identity
4. Critical, reflexive and creative thinkers
5. Initiators and independent learners
6. Active learners

Indeed, within the student's role, a focus on critical thinking skills, reflexivity and an awareness of one's own culture is stressed in the mission statements of the schools, which resonates with the ideals of the IBO and the MoE. An example of which is Mashrek International School's mission statement (see Appendix E) which reads:

Our mission is to teach students critical thinking, international understanding and appreciation for diversity while preserving the Arabic culture. Mashrek raises the individuals to become proud of their identity, responsible and productive citizens of their country and the whole world as well.

(Mashrek International School, 2014)

As such, these findings illustrate the schools' attempt to incorporate the ideals and values of the IBO and the emphasis of SCE, while maintaining the Arab culture and heritage, which relates to Bernstein's (2000) and Alexander's (2001) argument of the importance of pedagogy to take into account the context and cultural values of the setting it is set in.

## 5.2 Stakeholders' Perspectives of the National Curriculum of Science and Social Studies and how these relate to SC Pedagogy:

My analysis of the findings of the interviews revealed a discrepancy among some of the respondents regarding their understanding of SCE and its uses within the National Curriculum. Although all of the respondents were provided with the Information Sheet of the research project and had the concept of SCE explained to them prior to being interviewed, some had a better grasp of SCE than others. Indeed, the PYP head-teacher, education specialists and the community organiser seemed to have a better understanding of SCE as they were more confident, expressive and knowledgeable about SCE and its pedagogical practices used within the National Curriculum. On the other hand, the three teachers and other head-teacher interviewed were not, which could be an indication of a top-down policy approach to SCE and its uses within the curriculum. This is explored in more detail in the following sub-sections.

Furthermore, the findings from the interviews with the respondents revealed that contrary to the claims made by Qablan et al. (2010) and Mustafa and Cullingford (2008), the National

Curriculum's textbooks within the IB World Schools are considered to be one of many resources instead of being the primary source of knowledge in the process of teaching and learning.

Moreover, due to the individuality of the IB schools in their ability to incorporate both the IB and MoE's objectives to education, the process of teaching and learning is somewhat more flexible and allows room for curriculum development and the use of enriching resources. Therefore, the Science (2013) and Social Studies (2013) textbooks are used as one of many other teaching material within these schools. Indeed, Mrs Dajani<sup>1</sup>, an education specialist at one of the educational reform initiatives in Amman, and Mrs Jaber, a PYP head-teacher at one of the IB World Schools, both stated that IB schools use the Science (2013) and Social Studies (2013) textbooks along with other resources in order to enrich the learning experience of students. They also claimed that IB schools have authorisation and autonomy over the selection and sequence of curricular content. As such, teachers within IB settings do enjoy some freedom over the selection, sequence and pace of knowledge and over their use of SC pedagogical practices. This is not the case however, for public or other private schools that adopt the MoE's mission as explained by Qablan et al. (2010) and Mustafa and Cullingford (2008), in which these textbooks would be the primary and sometimes only source of knowledge that teachers are obliged to go through cover to cover. In reference to Bernstein (2000) this shows the level of autonomy of the PRF i.e. the IBO in the selection, sequence and pace of pedagogic discourse.

### 5.2.1 Role of the Teacher within the National Curriculum

The respondents' perspectives of the role of the teacher within the National Curriculum varied from viewing the teacher as having an active and central role, to being described as more

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<sup>1</sup> Names of the stakeholders have been changed to guaranty anonymity.



of a facilitator and a supporter in the process of teaching and learning. These contradictory views to the role of the teacher could be attributed to the level of experience in IB settings and/or the Jordanian Educational System, which affected the respondents' responses and views of the National Curriculum and its incorporation of SCE.

As such, the PYP head-teacher, educational specialists and the community organiser all agreed that the teacher should assume the role of the facilitator rather than the provider of knowledge. He/she should support students throughout their learning process by facilitating the exchange of ideas, engaging students in activities that require them to construct knowledge such as group work and assist them to become active and critical learners. Furthermore, they stressed the importance for teachers to be open-minded, empathetic and aware of the developmental and emotional needs of students. Mrs Darwazeh, a community organiser and head of programmes at an NGO in Amman, described the role of the teacher in the process of teaching and learning within the National Curriculum as follows:

The most important role for the teacher is to understand the child and his needs and also design learning in a way that places the child at the centre of the learning process...the teacher has to at least be aware of Bloom's taxonomy. [My translation]

(Mrs Darwazeh, Community Organiser 1)

This group's perspective of the role of the teacher in the process of teaching and learning is aligned with a constructivist approach that describes the teacher as a facilitator rather than a provider of knowledge, which corresponds to the description of SCE suggested by Westbrook et al. (2013). Furthermore, these perspectives are in agreement with the role of the teacher assumed in the teacher's guides of Science (2007) and Social Studies (2007), which I have highlighted in section 5.1.1 above.

On the other hand, the perspectives of the three teachers and other head-teacher on the role of the teacher within the National Curriculum seemed more ‘traditional’ and aligned with a behaviourist approach rather than a constructivist approach. Indeed, this group described the teacher as having a central role at teaching and learning especially at primary level, where they claimed that students require to be ‘taught’ knowledge and that the teacher has to ensure that they are ready to accept that knowledge. Moreover, they claimed that as teachers they have to use pedagogical practices such as lecturing and questions and answers in order to ‘teach’ students how to think and lay the foundation for the coming years of the student’s educational life. Mrs Tadros, a grade one homeroom teacher at one of the IB World Schools, described the role of the teacher as:

First, the teacher has to effectively manage class discipline and most importantly, ensure that the students are ready to receive knowledge. Second, the teacher has to deliver knowledge in an easy manner for the students to understand and to do that he has to use various techniques in the delivery of that knowledge. [My translation]

(Mrs Tadros, Teacher 2)

Such a description of the role of the teacher is consistent with a TC approach to teaching and learning as referred to by Westbrook et al. (2013), which disagrees with the SC role of the teacher as specified within the pedagogical practices used in the Science (2007) and Social Studies (2007) guides. The discrepancy between the views expressed by the first group of respondents and the second group suggests a top down policy approach to SCE, in which teachers, who are at the bottom of the educational chain, and even the head-teacher lack the proper conceptual understanding. Furthermore, although the three teachers and the head-teacher worked in IB settings, where according to Hallinger and Lee (2012) would go through continuous professional development, they seemed to have a TC mindset to teaching and

learning. This echoes Tabulawa's (1997) argument of the difficulty of switching from a TC to a SC mindset, which would lead to these conflicted views of the role of the teacher in the process of teaching and learning.

### 5.2.2 Role of the Student within the National Curriculum

The respondents' perspectives of the role of the student in the process of teaching and learning has been mostly consistent with a constructivist and SC approach that places the student at the centre of the learning process and emphasises his/her active role within the pedagogical strategies used. Indeed, students are required to assume an active role by inquiring, searching for and constructing knowledge and engaging in classroom discussion. This view reflects the description of SCE as referred to by Westbrook et al. (2013), Schweisfurth (2011) and Sriprakash (2010) and is aligned with Bernstein's (2000) description of competence models that place the student at the centre of the learning process. Furthermore, it is consistent with the specified role of the student in both the Science (2007) and Social Studies (2007) guides and the mission statements of the IB World Schools that I have discussed in previous sections.

However, a few of the respondents identified a somewhat constricted role for lower primary level students within the National Curriculum, claiming that their role was limited to responding to the cues of the teacher and engaging in discussion initiated by the teacher. This view is similar to the one expressed by the teachers and head-teacher in the previous section above, which is another indication of a TC mindset in teaching and learning. To illustrate, Mrs Qadi, a grade two teacher at one of the IB World Schools, described the role of the student as "active and engaging in classroom discussion." However, when I asked her to provide an example of a SC activity that her students undertake in Science, she described a TC activity instead:

When we go to the Science lab to perform a Science experiment, I start the lesson by explaining the experiment we are about to undertake. Then I would ask: what do you think would happen when I add this to that? Let us observe. Of course, they start throwing answers left and right so I would tell them I don't know, let us find out. They observe as I do the experiment and thus they come to their own conclusions, with me speaking for only 10 minutes of the entire lesson while having them speak for the rest of the 30 minutes. [My translation]

(Mrs Qadi, Teacher 1)

This clearly shows that even in IB settings, where teachers go through sufficient training in SCE according to Hallinger and Lee (2012), they lack the proper understanding and conceptualisation of SCE, which affects their pedagogical practices. Furthermore, this supports my findings of the restrictive role of the student when undertaking activities in the Science textbook (2013), in which the student assumes a secondary role while the teacher is the one ultimately in control. In reference to Bernstein (2000), this description is more aligned with aspects of performance models, which places more control in the hands of the teacher.

### 5.2.3 Barriers to the Effective Implementation of SCE within the National Curriculum

The findings from the interviews with the respondents revealed a number of barriers that were claimed to stand in the way of the effective implementation of SCE within the National Curriculum in IB settings, the first of which was curricular content. Almost all of the respondents expressed negative views toward Social Studies as a subject within the National Curriculum. Indeed, the Social Studies textbooks of the lower primary level were criticised for their poor and rigid content, which limited the use of proper SC strategies and activities and were deemed difficult for children at that young age to comprehend. Mrs Jaber, claimed that schools that use

these textbooks as a primary source for knowledge and strictly abide by the MoE's regulations often use TC methods to deliver that 'rigid' content:

For example, the teacher informs the students that today's lesson would be addressing the Great Arab Revolt and then she would instruct the students to open their notebooks and write down the justification for the Great Arab Revolt. This is an example of Direct Teaching Strategies that include copying, memorising etc. We (IB schools) on the other hand, would approach this lesson differently by grouping these difficult terms under one concept which would be about revolutions in general, then we would let students explore the concept for themselves rather than provide them with knowledge. [My translation]

(Mrs Jaber, Head-teacher 1)

Similarly, Mrs Khawaja, the other head-teacher at one of the IB World Schools, criticised the Social Studies textbooks for their dense and abstract content and claimed that they lacked practical skills such as reading maps, which she identified as more important than learning about the legislative and administrative laws of the country. However, the respondents were not as critical of the Science textbooks for lower primary level. Indeed, they claimed that SC pedagogies were more present in Science teaching, which contradicts the findings by Qablan et al. (2010) on the prevalence of TC pedagogy in Science teaching. Mrs Tadros agreed with Mrs Khawaja but added that although she took her students to the Science lab to conduct experiments, she tended not to involve them as much in the process because of safety issues. This could also explain why Mrs Qadi, from the section above, described a more TC approach to her lesson plan.

Other barriers identified that deterred the effective implementation of SCE in primary schooling were cultural and societal in nature. Indeed, both head-teachers and Mrs Darwazeh, the community organiser, claimed that the patriarchal structure of the Jordanian society and the prevalence of religious ideologies within the National Curriculum acted as a barrier against the

agency and inclusion of the ‘voice of the child’ and affected the power structure between the student and teacher in the process of teaching and learning. This could explain the prevalence of the TC mindset among the teachers despite working in IB World Schools, where SCE is emphasised. Additionally, this finding corresponds to Croft’s (2002) and Tabulawa’s (1997) claim of the indifference of SC pedagogy to the culture it is set in and to the construction of the student in different contexts, which was similarly evident in the contexts of Malawi and Botswana as discussed in the literature review. To further explain, Mrs Qadi, the grade two teacher, claimed that some parents also had a TC mindset; they expected their children to be provided with knowledge instead of constructing it and expected textbooks to be covered in full:

Some parents come up to me and demand an explanation as to why the Maths textbook was not entirely covered by at the end of the school year. They don’t understand that this particular lesson or unit was covered in the English Maths textbook. [My translation]

(Mrs Qadi, teacher 1)

These findings illustrate clearly the misconception some teachers and parents alike have of the pedagogical practices used, the use of multiple resources besides the prescribed MoE’s textbooks and the need for the student to be involved in the learning process within the National Curriculum. In reference to Bernstein (2000) and Alexander (2001), this illustrates the inability of SC pedagogy to take into account the culture of the setting it is set in.

Lastly, the findings from the interviews revealed some technical barriers that stand in the way of the effective implementation of SCE, such as time constraints, which the three teachers attributed to the many extracurricular activities and events that the IB Schools organise. These activities and events sometimes take up class time, which made them substitute Group/ Activity-Based strategies and go for Direct-Teaching Strategies to achieve the educational outcomes set in

the National Curriculum. This supports my findings of the justification for the use of Direct-Teaching Strategy in the Science (2007) and Social Studies (2007) guides.

## 6. Conclusion

This dissertation set out to explore the propensities of the National Curriculum for the incorporation of SCE within primary schooling in IB World Schools in Amman. Previous research on the pedagogical approaches and instructional strategies used within Jordanian schools revealed a prevalence of TC pedagogy to teaching and learning. Furthermore, pupil to teacher ratio and time constraints were recognised as barriers to active learning (Qablan et al., 2010; Mustafa and Cullingford, 2008). My findings from the documentary analysis of the teacher's guides, textbooks and mission statements revealed a somewhat constructivist approach to teaching and learning that incorporates SC pedagogies. However, these are met with a constricted role for the student that inhibits his/her full participation in the construction of knowledge. Moreover, the findings from the perspectives of stakeholders revealed a TC mindset to teaching and learning.

The qualitative and interpretivist approach to this research allowed me to gain insight into the pedagogical approaches emphasised within the curriculum, and the interviews in contrast, revealed an unexpected outcome. The assumption that teachers and head-teachers working in IB settings where more awareness of the SC approach is expected, was placed in doubt due to the contradictory responses that I received when asking about SC practices in the classroom. Consequently, these findings suggest a need for developing a wider data set; to see whether these understandings are shared across a broader group. Furthermore, a case study approach, which incorporates observations of classroom processes and explores the perspectives of pupils through focus groups, to explore the teaching practices that are developed under the National Curriculum in different contexts such as in IB and non IB classes, is imperative. However, this would have been beyond the scope of a Master's dissertation but something that might be done in the future.



Moreover, knowledge of the cultural barriers to a SC curriculum is of utmost importance to the understanding of the pedagogic discourse that is prevalent in Jordanian society. Parental expectations fall under the ‘traditional’ paradigm of schooling that calls for an inflexible approach to the ‘finishing of’ the textbook from cover to cover (see Mrs Qadi’s quote) and the inability of the parents to accept the blurring of the boundaries between subjects.

A further restriction is the perceived elitism of the IB amongst stakeholders, where, as argued by Hallinger and Lee (2012) facilities and an understanding of SC approaches are highly emphasised. This brings me to the final point, which is the misalignment between the expectations of the IB setting and the actual understandings and therefore practices in the classroom. Although the National Curriculum is well meaning in its aspiration for a SC approach, the reality is that teacher training and professional development do not go hand in hand. This was made evident from the findings of my interviews. It must be noted, that even with every opportunity afforded to those teachers and head-teachers of the IB sector SC pedagogy is not applied fruitfully. What chance therefore, do teachers and head-teachers, who solely adopt the MoE’s guidelines and rely primarily on the textbooks as the source of knowledge, have in implementing a SC pedagogy?

As such, these findings problematise the assumptions of SC approaches to teaching and learning in non-Western communities, which lead to the conclusion that SCE pedagogy might be incompatible with the culture and societal expectations of a context such as Jordan.

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## Appendices

### Appendix A: The IB Learner Profile

**IB learner profile**

The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.

As IB learners we strive to be:

**INQUIRERS**  
We nurture our curiosity, developing skills for inquiry and research. We know how to learn independently and with others. We learn with enthusiasm and sustain our love of learning throughout life.

**KNOWLEDGEABLE**  
We develop and use conceptual understanding, exploring knowledge across a range of disciplines. We engage with issues and ideas that have local and global significance.

**THINKERS**  
We use critical and creative thinking skills to analyse and take responsible action on complex problems. We exercise initiative in making reasoned, ethical decisions.

**COMMUNICATORS**  
We express ourselves confidently and creatively in more than one language and in many ways. We collaborate effectively, listening carefully to the perspectives of other individuals and groups.

**PRINCIPLED**  
We act with integrity and honesty, with a strong sense of fairness and justice, and with respect for the dignity and rights of people everywhere. We take responsibility for our actions and their consequences.

**OPEN-MINDED**  
We critically appreciate our own cultures and personal histories, as well as the values and traditions of others. We seek and evaluate a range of points of view, and we are willing to grow from the experience.

**CARING**  
We show empathy, compassion and respect. We have a commitment to service, and we act to make a positive difference in the lives of others and in the world around us.

**RISK-TAKERS**  
We approach uncertainty with forethought and determination; we work independently and cooperatively to explore new ideas and innovative strategies. We are resourceful and resilient in the face of challenges and change.

**BALANCED**  
We understand the importance of balancing different aspects of our lives—intellectual, physical, and emotional—to achieve well-being for ourselves and others. We recognize our interdependence with other people and with the world in which we live.

**REFLECTIVE**  
We thoughtfully consider the world and our own ideas and experience. We work to understand our strengths and weaknesses in order to support our learning and personal development.

**The IB learner profile represents 10 attributes valued by IB World Schools. We believe these attributes, and others like them, can help individuals and groups become responsible members of local, national and global communities.**

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Source: IBO (2014) *IB Learner Profile*. Available at <http://www.ibo.org/programmes/profile/> (Accessed: 20 May 2014).

## Appendix B: The Philosophy and Objectives of Education

### **\*The Philosophy and Objectives of Education:**

The philosophy of education in the kingdom stems out of the Jordanian constitution, the Islamic Arab civilization, the principles of the Great Arab Revolt and the Jordanian national experience. This philosophy is manifested in the following basics:

#### **(a) The Intellectual Bases:**

1. Faith in Almighty God.
2. Faith in the higher ideals of the Arab Nation.
3. Islam is a system of intellectual behavioral ideology that respects man, exalts the mind and urges for knowledge, work and morality.
4. Islam is a system of wholeness that provides virtuous values and principles that from the consciousness of both the individual and the group.

#### **(b) The National Bases of Pan-Arab and Human:**

1. The Hashemite kingdom of Jordan is a parliamentary, hereditary and monarchic state where loyalty is for God, the homeland and the king.
2. Jordan is a part of the Arab Nation and the Jordanian people are indivisible from the Islamic and the Arab Nations.
3. The Arabic language is an essential pillar in the existence of the Arab Nation; its unity and renaissance.
4. The Palestine cause is crucial to the Jordanian people.

#### **(c) The Social Bases:**

Jordanians are equal in political, social and economic rights and responsibilities and are distinguished only by what they contribute to their society and their belonging to it.

1. Respect for the individual's freedom and dignity.
2. Education is a social necessity and a right for all, each according to his intrinsic abilities and potentials.

#### **(d) General Objectives:**

The general objectives of education in the Kingdom emanate from the philosophy of education, and are exemplified in shaping a citizen; believer in God, adherent to homeland and nation, endowed by virtues and human aspects, and mature physically, mentally, spiritually and socially so that each student, by the end of the educational cycles, shall be able to:

1. Use Arabic language in expressing one's self and in communicating easily with others.
2. Vigilantly comprehend facts, concepts and relations connected with the natural environment both locally and globally and effectively use them in life.
3. Comprehend Islam and Sharia' as ideologies and vigilantly exemplify their values and trends.
4. Vigilantly comprehend technology and acquire skills of using, producing and developing it, and subjugate this technology to serve the society.
5. Think objectively and critically and adopt scientific methods in observation, research and problem-solving.
6. Adhere to citizenship rights and shoulder the related consequential responsibilities.
7. Invest personal potentials and free time in developing knowledge, innovation, invention, and the spirit of initiative, towards work and its completion and in innocent entertainment.

**(e) The educational policy principles:**

The educational policy principles are manifested in the following:

1. Orienting the educational system to have better suitability to both individual and societal needs, and establishing a balance between them.
2. Emphasizing the importance of political education in the educational system, and enhancing the principles of participation, justice and democracy and their practices.
3. Enhancing scientific methodology in planning, conducting and evaluating the educational system and developing research, assessment and follow-up systems.
4. Expanding educational type in the educational institutions to have them involve programs for special education and others for gifted learners and for those with special needs.
5. Emphasizing the fact that teaching is a message and a career that has its own ethical and occupational basics.
6. Enhancing pride in the scientific and social status of the teacher for his distinguished role in building-up the individual and society.

**\*The Educational Cycles and Their Objectives:**

(a) The educational institutions are classified in terms of their cycles into the following types:

1. The pre-school (kindergarten) cycle of a maximum 2-year-duration.
2. The basic education cycle of a 10-year-duration.
3. The secondary education cycle of a 2- year-duration.



(b) Upon instructions issued by the Minister, it is allowed to:

1. Accelerate gifted students by reducing the academic scholastic years needed to accomplish the primary stage for the period that does not exceed 2 years.
2. Reduce the number of scholastic years needed to finish secondary education in accordance with the semester's system or according to foreign programs. This should not exceed 3 semesters excluding the summer semester.

**\*The Basic Education Cycle:**

- a) Basic education is compulsory and free in public schools.
- b) A child is accepted in the first year of the basic education at completing six-years of age by the end of December of the school year he enrolls in.
- c) A student is not to be expelled from school before completing 16 years of age, except for those with health problems stated in a report and signed by a specialized health committee.
- d) Basic education is the base for education and the cornerstone for building-up national and pan-Arab unity, developing intrinsic potentials and attitudes and orienting students accordingly.
- e) This cycle aims at realizing the general objectives of education and preparing the citizen in all aspects of his/her personality; physical ,mental, social and spiritual so that he/she shall be able to:
  1. Vigilantly acknowledge Islam's history, principles, provisions and values and exemplify them ethically and behaviorally.
  2. Acquire the basic skills of the Arabic language so that he becomes able to use it easily.
  3. Realize essential facts relevant to the natural and geographical environment on Jordanian, Arab and global levels.
  4. Exemplify the social behavioral basics and respect the traditions, habits and sound values of his society.
  5. Love his homeland, feel proud of it and hold the consequent responsibilities.
  6. Acquire the basic skills of at least one foreign language.
  7. Comprehend scientific basics of all exposed types of technology and exploit them in daily life.

Source: MOE (2010) *The Philosophy and Objectives of Education*. Available at

<http://moe.gov.jo/en/MenuDetails.aspx?MenuID=32>. (Accessed: 20 May 2014).

## Appendix C: Framework for the Documentary Analysis of the Textbooks and Teacher's Guides of Science and Social Studies

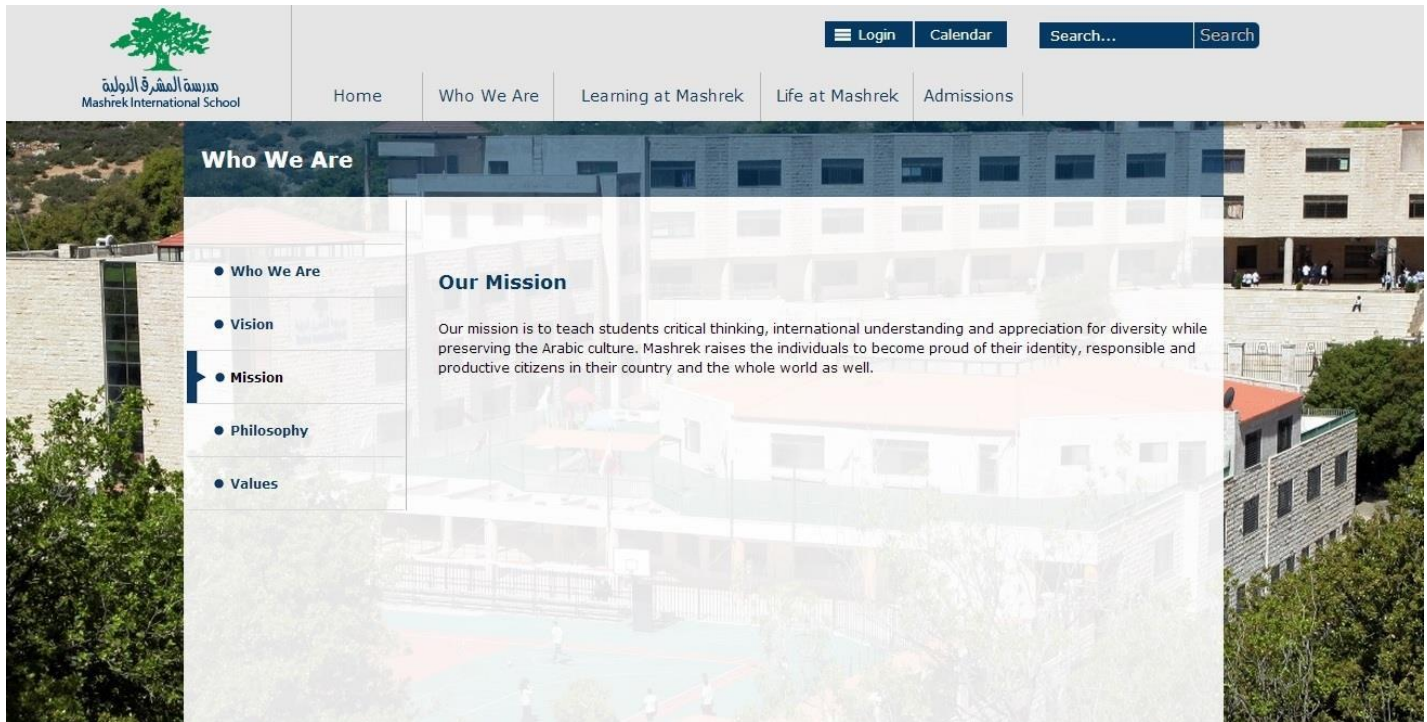
Research Question	What/Where to Look for to Answer Research Question		
<p>1. What understanding of pedagogy and classroom instruction does the Jordanian National Curriculum of Science and Social Studies assume:</p> <p>a) What is the role of the teacher?</p>	<p>Identifying the role of the teacher in the process of teaching and learning, and in the process of evaluation as stated in the instructional guidelines provided in the teacher's guides of Science and Social Studies.</p>	<p>Identifying the instructional strategies and guidelines provided for teachers in the theoretical framework section presented in the teacher's guides to determine whether the teacher is a facilitator or provider of knowledge.</p>	<p>Identifying the type of activities (Q&amp;A, critical thinking questions, group work, projects etc..) and evaluation tools provided in the textbooks to determine whether the teacher is a facilitator or provider of knowledge.</p>
<p>b) How is the student perceived in the Science and Social Studies National Curriculum?</p>	<p>Identifying the role of the student as mentioned in the mission statement of the MoE, which is written in the teacher's guides of Science and Social Studies to determine the MoE's perspective of the role of the student in the process of teaching and learning.</p>	<p>Identifying the role of the student (passive, active etc..) as specified in the guidelines of the textbooks and teacher's guides.</p>	<p>Identifying the type of activities (Q&amp;A, critical thinking questions, group work, projects etc..) and evaluation tools provided in the textbooks to determine whether the student is active or passive in the process of learning.</p>

Research Question	What/Where to Look for to Answer Research Question		
<p><b>C)</b> How does Student-Centred pedagogy seem to align with the guidelines to teachers in the National Curriculum of Science and Social Studies and what barriers, if any, does the curriculum pose to the effective implementation of Student-Centred pedagogies in primary schooling in Jordan?</p>	<p>Identifying SC Instructional strategies and guidelines for teachers in the theoretical framework provided in the teacher's guides.</p>	<p>Identifying SC activities (group work, critical thinking questions etc...) provided in the textbooks.</p>	<p>Identifying the pedagogical codes of the curriculum (classification and framing) to determine the flexibility of curriculum for adopting SCE.</p>

## Appendix D: Sample Framework for Coding/Thematic Analysis of Interview Transcripts

	Role of the Teacher	Role of the Student	Comments about the Curriculum of Science & Social Studies & the Incorporation of SCE	Barriers to Effective Implementation of SCE
<b>Teacher 2</b>	<p>First, class management; discipline wise, making sure students are ready to accept knowledge. Second, deliver knowledge in an easy way (p.1) <b>Use as direct quote to show TC approach</b></p>	<p>Lower primary grade students' role is to sit and engage through initiation by the teacher. Limited role in the classroom. (p.5,6)</p> <p>Older students inquire, search and have active roles (p.6)</p>	<p>Use of Q&amp;A; critical thinking questions, analysing questions, factual questions, showing students a picture and hearing their responses (p.2)</p> <p>All lessons have to be covered, some autonomy in sequence of units (p.3) teachers vary in strategies used and can deviate from the guide (p.4)</p> <p>In the S curriculum, there are lab visits but without instructions specifying roles and teacher is cautious about involving students due to safety issues (p.6,7)</p> <p>Critique: SS curriculum is rigid and theoretical; there are activities like work sheets, field trips. S is more flexible and incorporates SCE more (p.7)</p> <p>Guides contain SCE strategies to use 60-80%, variance depends on time available (p.4)</p> <p>Critique: curriculum only serves academic outcomes(content); lacks focus on character building and communication skills as in IB. Encourages students to engage in dialogue but to the extent of the IB (p.4)</p> <p><i>Example of a lesson plan that incorporates SCE (p.5)</i></p> <p>Through the IB, teacher was introduced to SCE (p.6)</p>	<p>Depends on the curriculum content; some lessons require the use of lecturing as a strategy because students have no prior knowledge of the topic introduced (p.1) <b>quote to illustrate</b></p> <p>Time constraints; delivering knowledge on the expense of doing activities because the curriculum has to be fully covered by the end of the school year (p.2) no time for activities, group work, critical thinking (p.3) <b>use as quotation</b></p> <p>School celebrations and events take up much of the school day, which disrupts classes and forces teachers to rush the lesson to catch up (p.3)</p> <p>High Pupil to teacher ratio between 25 -30, makes it difficult to manage without an assistant (p.3)</p>

## Appendix E: Sample of Mission Statements



Source: Mashrek International School (2014) *Our Mission*. Available at

<http://www.mashrek.edu.jo/En/WebContent.aspx?PageId=2> (Accessed: 10 July 2014).