

Jordan's primary curriculum and its propensity for student-centred teaching and learning

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Jordan's Primary Curriculum and its Propensity for Student-Centred Teaching and Learning

Abstract

This article examines the Jordanian lower primary national curriculum and its propensity for student-centred teaching and learning. It draws upon Basil Bernstein's (1977 and 2000) sociological theory of pedagogic codes to analyse the curriculum model and the advocated pedagogical approach within official curriculum documents, textbooks and teacher guides. Although the research conducted confirms the aspirations of the national curriculum for the adoption of student-centred pedagogies, analysis of the selected texts reveals mixed messages where in some areas the curriculum exemplifies an integrated code and in others a collection code. The messages about classroom framing are also found to be contradictory. The paper argues that if Jordan is to fulfill its stated aspirations to embrace more progressive pedagogies, a full review of the curriculum is needed to ensure its classification and framing cohere better with a student-centred approach. 137 words

Keywords: Curriculum reform; student-centred pedagogies; primary schooling; Jordan, classification and framing.

I. Introduction

This paper examines the Jordanian lower primary national curriculum and its propensity for student-centred pedagogy, an issue that has been neglected in research into Jordanian education. While many of the studies that tackle curriculum reform in Jordan, centralisation of the curriculum, and pedagogy and teacher training briefly refer to student-centred education and the challenges teachers face in its implementation (see for example, Al-Amoush et al., 2012; Shirazi, 2012; Qablan et al., 2010; Mustafa and Cullingford, 2008; Al-Daami and Wallace, 2007), none of these studies have researched the implications of the written (official) curriculum and the curricular code for the implementation of student-centred pedagogy. This paper argues that while a curriculum can be considered as a specification of knowledge to be learned, it can also contain messages about how that knowledge should be learned. This has become increasingly the case given the pressures from international agencies for national education systems to adopt student-centred approaches to pedagogy.

As part of a full assessment of the implementation of student-centred teaching and learning within the Jordanian national curriculum, it is argued that one should first analyse the curriculum model and the advocated pedagogical approach before exploring its enactment in the classroom. To achieve this, this paper examines the written/official curriculum (ethos of education, instruction for teachers, syllabi and intended learning outcomes) to determine whether it implicitly and/or explicitly promotes a student-centred discourse. Basil Bernstein's (2000 and 1977) sociological theory of pedagogic codes informs the analysis of these curricular aspects. The paper begins with a depiction of the Jordanian context. This includes an overview of the status of curriculum reform in Jordan. It describes the key challenges facing its education system in general and attempts to

embrace student-centred education in particular. It then provides a brief overview of Basil Bernstein's (2000 and 1977) theoretical framework before describing the methodological approach of this research. The findings and discussion of the review conducted on the official/written curriculum as well as the analysis of the identified curriculum model and advocated pedagogical approach within the national curriculum are then presented. The paper concludes with the implications of the identified curriculum model for the development of student-centred pedagogies in the Jordanian education system, and the questions these pose for the adoption of progressive pedagogies.

II. Jordanian Context

Jordan is an upper-middle income country with a GDP of \$35 billion (World Bank, 2015), and a population of 9,531,712 million, of whom approximately 70% are under the age of 30 (Department of Statistics, 2015). With such a young population, Jordan's youth and young adults are considered to be key to the country's national development, making their access to quality and equitable education a key priority (UNDP, 2013). Jordan is a predominately Sunni Muslim country with Christians constituting around 2.2% of the population (Central Intelligence Agency, 2015). Jordan is a constitutional monarchy, with His Majesty King Abdullah II serving as Head of State. The King appoints the Prime Minister and members of the Senate, while members of the House of Representatives are elected by the public voters..

As a middle-income country, Jordan has a relatively high adult literacy rate of 97.9% (UNDP, 2015). The country also boasts high primary and secondary school enrolment rates (98% and 87%, respectively). However, it still lags behind in pre-primary enrolment with an admission rate of 38% (MoE, 2014). Indeed, public expenditure on pre-primary education barely reached 0.3% of the overall budget allocated for education in 2011, leaving the private sector to shoulder most of the burden of providing pre-primary education to the general public (UNESCO, 2014). However, as elaborated more fully below, the country is currently home to more than 1.3 million Syrians and 130,911 Iraqis as well as a number of other nationality refugees and asylum seekers fleeing neighbouring conflicts (Department of Statistics, 2015), which has put tremendous strain on the Kingdom's public systems and infrastructure; particularly education and health (UNHCR, 2015).

Similar to other middle income countries such as Turkey and Uganda (Altinyelken, 2015), Jordan has sought through recent curriculum reforms to shift from a content-driven curriculum to a competency-based curriculum that revolves around students successfully achieving a set of competencies at the end of the education cycle. Furthermore, as per the recommendations made for improving basic education at the 2000 Education for All (EFA) conference in Dakar, recent curriculum reforms around the global South leaned toward the promotion of student-centred as opposed to more traditional teacher-centred education as widely reported in a range of studies (e.g. Akyeampong et al. 2006; Croft, 2002; Chisholm and Leyendecker, 2008; Schweisfurth, 2011; 2013; Tabulawa, 2009). The push for student-centred teaching has been extensively promulgated by multilateral agencies such as UNESCO, UNICEF and the OECD and is seen as critical to efforts to improve the quality of educational provision. In addition to the allure of the democratic ethos of student-centred learning, its privileging of the active learner is also seen as being in harmony with the development of the workforce required in the post-Fordist knowledge economy. As a result, there has been a move in educational discourse from teacher-centred pedagogical approaches that limited student engagement and espoused a “passive” role for the student, to a more student-centred approach that promotes critical thinking and problem-solving (UNESCO, 2015; MoE, 2006). According to Westbrook et al. (2013), student-centred learning can be briefly characterised by the use of more active pedagogic practices that place the student at the centre of the learning process and which involve high order questioning, collaborative learning, smaller groups, and attention to the needs of individual students. Such practices are contrasted with teacher-led approaches i.e. lecturing, Q&A and demonstration, which limit student engagement and rely heavily on the teacher for the construction of knowledge.

In line with international best practice, the multi-donor Education Reform for the Knowledge Economy (ERfKE I) was launched in 2003 to deliver the 2002 Vision Forum for the Future of Education in Jordan:

The Hashemite Kingdom of Jordan has the quality competitive human resource development systems that provide all people with lifelong learning experiences relevant to their current and future needs in order to respond to and stimulate sustained economic development through an educated population and an educated workforce.

(MoE, 2013, p.3)

In particular, component three of the programme dealt with improving the quality of all elements of teaching and learning in order to achieve quality learning outcomes for all students in Jordan (MoE, 2013). In its second phase, ERfKE II aimed to promote the use of more active pedagogical approaches such as critical thinking and problem-solving skills that place students at the centre of the learning process. Furthermore, under ERfKE II (2009 – 2015), 85% of public schools in Jordan were involved in a project that used a participatory approach to school governance, which focused on engaging teachers, parents and students in identifying school needs. In addition, in 2014 around 3,750 teachers (22% male and 78% female) who work in schools that have a large Syrian refugee presence received training on student-centred teaching and learning strategies as well as on social life skills. Moreover, in the same year, the Education Council, which is the highest authority that approves educational matters in the country, has endorsed a number of revised textbooks for the lower primary grades, all in an effort to improve teaching and learning in the Kingdom (MoE, 2014). These newly-revised textbooks, while currently in use, are still on trial basis.

Despite reform efforts, student learning outcomes remain a key concern. At the upper primary and secondary level, student performance on international assessments such as the Trends in Mathematics and Science Studies (TIMSS) reveal unsettling results; Mathematics scores on TIMSS for the years 1999 and 2007 have fallen by an annual rate of 0.10 (Beatty and Pritchett, 2013). The 2011 TIMSS assessment revealed a further drop; Mathematics scores for grade 8 students have fallen by an average of 21 points (IEA, 2011). The 2015 TIMSS assessment showed an even lower decline in scores for both Mathematics and Science (Martin et al., 2016; Mullis et al., 2016). Furthermore, the results of 2012 Programme for International Student Assessment (PISA), which is taken by 15-year olds, showed no improvement in performance since 2006, putting Jordan among the lowest 10 performers of the 65 participating countries in PISA for that year (OECD, 2014). PISA 2015 scores remain stagnant (OECD, 2016). Similarly, at the lower primary level, the Early Grade Reading Assessment (EGRA) conducted in Jordan in 2012 revealed a lower than average reading rate for grade 2 and 3 students. In conjunction, the Early Grade Mathematics Assessment (EGMA) revealed that grade 3 students tend to struggle with bigger numbers, despite the national curriculum's assumption that by grade 3 students would be able to comfortably work with 5 digit number calculations (Brombacher et al., 2012). The above findings suggest that while important reform efforts might be taking place, these are not translating into higher scores on international assessment metrics.

Research evidence on teachers' practices suggests that the instructional time available to students is highly affected by the priority given by teachers to curriculum coverage. Results from the EGRA and EGMA revealed that "teachers may be adhering strictly to the curriculum, steadily progressing towards its completion, regardless of their students' understanding of the material covered" (Brombacher et al., 2012, p. 6). Moreover, Mustafa and Cullingford (2008) argue that textbooks are considered to be the primary resource for teaching and learning and that teachers have little control over the selection and sequence of knowledge, which in turn affects their pedagogical practices in class. It may also be that the combination of these pressures has impeded the implementation of student-centred teaching and learning in Jordanian schools. Qablan et al. (2010) claim that curriculum reforms have resulted in little change in classroom practices in Jordanian schools, especially in science teaching. They argue that teachers' perspectives are disregarded in educational reforms in the Kingdom and that teachers interviewed as part of their study revealed difficulties in incorporating pedagogical changes within the classroom. Some of these difficulties included the large number of students per class, high number of classes allocated per teacher, the prevalence of teacher-centred pedagogies such as lecturing and rote-learning and the fact that textbooks are the only resources available and are expected to be completed cover to cover, which corroborates the arguments made by Mustafa and Cullingford (2008), as well as those in much of the wider literature on attempts to develop student-centred education (Schweisfurth, 2013).

Additionally, El Sheikh (2001) claims that despite reform efforts, school curricula, teacher education and professional development have not risen to the task of improving critical thinking among students. A study conducted by Innabi and El Sheikh (2006) on teacher perceptions of critical thinking in mathematics in Jordan, for example, reveals a lack of understanding of the concept of critical thinking; though most teachers interviewed claimed to teach critical thinking, when asked by the researchers to describe a learning situation where critical thinking teaching could be implemented, half of them failed to do so. Similarly, a study conducted by Al Shawa (2012) claims that pre-service teacher training, especially in mathematics, was sub-standard in terms of instruction, teaching and learning as well as in the implementation degree of the National Teacher Professional Standards. Although focused early childhood education, Roggemann and Shukri (2010) also found teachers were unfamiliar with the language used to introduce 'active learning' pedagogies, although suggest nevertheless that these teachers were generally receptive to change.

In contemporary times, we must also take account of the pressures on the Jordanian education system created by the Syrian refugee influx, particularly given that lack of material resources is highlighted in the wider literature as being likely to compromise the introduction of student-centred learning. Now entering its sixth year, the crisis has placed tremendous strain on neighbouring countries hosting Syrian refugees such as Jordan, negatively impacting their health and education systems. Indeed, with over 1 million Syrian refugees residing in Jordan, 80% of whom live outside camps, and 53% of whom are children, the country's infrastructure and public service provision is now facing severe challenges (Christophersen, 2015; Jordan Response Platform to the Syria Crisis and United Nations, 2014). In 2014 alone there were about 130,000 Syrian refugee students enrolled in public schools, while another 30,000 were waiting to be enrolled in school (MoE, 2014). As a result, 41% of public schools in the capital as well as in the cities of Zarqa, Irbid and Mafraq are now overcrowded (Education Working Sector Group, 2015). Furthermore, the large number of Syrian refugees enrolled in the public education system has pushed the MoE to increase the number of its double-shift schools (from 7% to 11.7%), which has placed additional burdens on school infrastructure, and has negatively impacted upon the quality of education provided (UNICEF, 2015; MoE, 2014). The double-shift system has added more responsibilities on teachers, many of whom are now working in both shifts. Moreover, the double-shift system has shortened instructional time, and has forced teachers to focus on core subjects such as mathematics and Arabic, while excluding sports and art from the school programme (UNICEF, 2015).

Findings such as these are likely to at least partly explain the low student performance on international assessments and poor student learning outcomes. However, while some research has been conducted on teachers' mediation of the new curriculum, little attention has been paid to the messages within the Jordanian curriculum itself, and in particular the ways these messages encourage or constrain student-centred pedagogies. We should note that research into the introduction of student-centred learning in other contexts suggests that this has been far from straightforward. Schweisfurth's (2011) review of 72 studies points to 'failures grand and small' (p.425) in attempts to introduce student-centred pedagogies. Alongside the somewhat inflated expectations of policy-makers, key issues identified for these failures include lack of attention to local socio-cultural realities, such as norms of adult-child relations; failure to take a holistic view of the education system; lack of policy and curriculum alignment; lack of teacher preparation and

supervision; the negative impact of high-stakes examinations which leads to ‘teaching to the test’; and unfavourable material conditions within schools themselves. In relation to the alignment between policy texts and the curriculum, In addition to wider criticisms, Tabulawa (2009) in particular is highly critical of the deep contradictions between the behaviourist messages of the curriculum and the learner-centred values of national policy. The analysis that follows aims similarly to explore the congruence of the pedagogic messages within the revised Jordanian curriculum, as described further below.

III. Theoretical Framework

In order to analyse the messages within the curriculum, we draw on Bernstein (2000 and 1977), an important educational theorist who scrutinised the social messages underlying pedagogic discourse. Although his research was primarily on social class inequalities within the British education system, his key concern was to develop a language that could be used to describe and analyse pedagogic discourse in any other context, including contexts in the Global South (Sriprakash, 2010). Bernstein’s (2000) description and critique of performance and competence pedagogic models offers insight into the variations in aspects such as discourse, evaluation, control, pedagogic text, autonomy and economy that are associated with such models. 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 are in a closed relation with one another i.e. each subject is regarded as a separate content that does not share any relation to the other contents, in other words, it has strong *classification*, where classification refers to the strength of separation between categories. Furthermore, a hierarchical educational relationship exists between the teacher and student within the collection code; strong control is exercised by the teacher over the pace, sequence and selection of knowledge to be acquired. In other words, in Bernstein’s terms, the collection code has strong *framing*. One can consider that the teacher assumes the role of provider of knowledge in the strong framing that is typical of the collection code.

In the integrated code, on the other hand, there are relatively fluid boundaries between subjects, for example there is no fixed time allocated for each subject and they may be taught together (weak classification). Moreover, a higher level of autonomy exists in the selection, sequence and pace of curricular content within the integrated code (weak framing). This suggests that students within

integrated models may be more actively involved in their learning and can be placed at the centre of the learning process, with the teacher acting more as facilitator, rather than provider of knowledge. Such levels of autonomy, however, may be difficult to achieve in educational contexts where students and teachers may not be able to choose the curricula content, according to Bernstein (2000). It is also important to take into account the tensions that might arise when shifting from collection to an integrated curricular code in terms of the pedagogical practices they each assume, particularly the changes implied in teacher-student dynamics. We discuss in the following section the methodology used in the analysis, and how the concepts of integrated and collection codes, associated with strong and weak classification and framing respectively, are drawn upon.

IV. Methodology

Documentary analysis was chosen as a research method to review the curriculum model of the lower primary grades including the advocated pedagogical approach. This was achieved through analysis of official policy documents and learning resources developed by the MoE between the years of 2006-2013. These include the following: a) the General Framework for Curricula and Assessment (2006), which is the official framework of the Jordanian national curriculum containing the general objectives and outcomes for both the basic and secondary education cycles; b) the lower primary grade syllabi; and c) the lower primary science and social studies textbooks as well as their officially-endorsed teacher guides, all of which were in use up to June 2014. Excerpts from the textbooks and teacher guides for Grade 3 were selected to illustrate the messaging on student-centred teaching and learning. Grade 3 was selected as the curriculum specification was felt to be more elaborated than the earlier grades. The analysis was done through repeated reading of the texts, informed by an awareness of Bernstein's (1977 and 2000) work on the classification and framing of knowledge, which is a widely used analytical framework for examining pedagogic discourse (see for example Westbrook et al., 2013; Sriprakash, 2010; Larson and Marsh, 2005). Through Bernstein's framework, a close examination was made of the classification (boundaries between subjects) and framing (level of control over different aspects of the learning process for teachers and students including the selection, pace and sequence of knowledge construction) of the curricular code and what it implies for classroom power relations.

To understand the implications of the identified curricular code on the teacher/student dynamics and the extent to which student-centred pedagogies are assumed within the official curriculum, the

roles specified for both the teacher and student were scrutinised. This included identifying the role of the teacher and student in the process of teaching, learning and evaluation, as stated in the instructional guidelines provided within the science and social studies textbooks and teacher guides as well as within the General Framework for Curricula and Assessment (MoE, 2006). In addition, the analysis identified the type of activities (Q&A, critical thinking, group work, project-based learning etc.) and evaluation tools provided in the textbooks and teacher guides in order to determine whether the teacher is constructed as a facilitator or provider of knowledge and whether the student is assumed to be active or passive in their learning. Excerpts from selected texts are also provided, translated from Arabic by the first author (who is herself Jordanian).

V. Findings and Discussion

Initial analysis of the curriculum presented in the General Framework for Curricula and Assessment points to a pedagogic discourse that advocates the use of ‘active learning.’ This notion is also emphasised within the grade three Science Teacher Guide (p.316) and Social Studies Teacher Guide (p.164), which describe learning “as an act that is performed by the learner, not the teacher.” In addition, pedagogies that call for teachers to have an active role while students assume a passive role are described as ‘traditional’ in ways that imply they should be left behind. 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. In general, the student is perceived within the lower primary curriculum as having 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, inquiry 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.

(Science Teacher Guide, p.9; Social Studies Teacher Guide, p.10)

Furthermore, the lower primary teacher guides recommend that the pedagogical strategies chosen by the teacher answer the what, how and when of teaching as well as take into account the cognitive development stage of the learner. 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 the use of varied methods such as project and group work. This reflects an integrated code that gives students responsibility for their learning. Additionally, it shows that the lower primary curriculum assumes a constructivist approach to teaching and learning that articulates with student-centred education.

On the other hand, further analysis of the lower primary teacher guides and the General Framework for Curricula and Assessment reveal the adoption of six different instructional strategies that the teacher is expected to alternate between, depending on factors such as the curricular content and time allocated for each lesson. These instructional strategies are listed as (1) Direct Teaching Strategy; (2) Inquiry-Based Learning Strategy; (3) Problem-Solving Teaching Strategy; (4) Group-Based Learning Strategy; (5) Activity-Based Learning Strategy; (6) Critical Thinking Learning Strategy.

In contrast to the constructivist approach to teaching and learning identified above, the first strategy introduced within the teacher guides (Direct Teaching) follows a somewhat behaviourist approach, in which the teacher is the centre of the educational process, with the role of providing knowledge to the students through lecturing, Q&A, worksheets, workbook exercises and demonstration. The student, on the other hand, assumes a passive role and receives knowledge from the teacher (Science Teacher Guide; Social Studies Teacher Guide). Indeed, direct teaching is described within the guides as:

Teaching that is primarily dependent on the teacher in providing knowledge in all of its forms to the student. Student learning according to this approach is described as receptive learning, where the learner is a recipient of knowledge. [First author's translation]

(Science Teacher Guide, p.316; Social Studies Teacher Guide, p.164)

In this strategy, it is first recommended that the teacher prepare for the lesson by setting the educational outcomes and choosing the necessary methods for achieving these outcomes. The teacher is then advised to relate students' previous knowledge to the new knowledge they are about to 'receive'. Furthermore, when using this particular strategy, the teacher is required to use educational tools for evaluating the students such as checklists (Science Teacher Guide; Social Studies Teacher Guide). Drawing on Bernstein (2000), this pedagogic practice resembles

performance models that have strong framing; the teacher within direct teaching exercises strong control over aspects of the learning process, which would appear to leave students little room to contribute.

The rationale for emphasizing direct teaching strategies when the written curriculum purportedly promotes 'active leaning' is attributed to high pupil-to-teacher ratio and time constraints, both of which are recognized as making the implementation of alternative strategies difficult (Science Teacher Guide; Social Studies Teacher Guide). This aligns with the claims made by Qablan et al. (2010) and Mustafa and Cullingford (2008) on the high pupil-to-teacher ratio found in Jordanian public schools which affects the pedagogical approach adopted by the teacher, and contributes to the prevalence of teacher-centred pedagogies.

Analysis of Strategies 2-6 indicates that these are more open to student-centred learning i.e. involve pedagogic practices that are more aligned with an integrated code (Science Teacher Guide; Social Studies Teacher Guide). The teacher assumes a more supervisory role within these strategies, e.g. time management, guiding and correcting the mistakes made by students, and is perceived to be more of a facilitator rather than a provider of knowledge. Students 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, which corresponds to the description of student-centred education suggested by Sriprakash (2010) and Westbrook et al., (2013). For example, students are to be asked undertake a planned activity and are offered an opportunity to learn independently and/or collaboratively through the use of activities such as debates, games, group discussions, storytelling, surveys, oral presentations and project-based learning as well as take responsibility for their own actions (Activity-Based Learning Strategy). Furthermore, students 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 set by the teacher (Problem-Solving Teaching Strategy). In reference to Bernstein (2000) the use of evaluation tools such as checklists to assess the presence of certain competencies resembles some aspects of competence models.

However, some aspects of teacher control are still apparent within strategies 2-6. For example, it is the teacher that prompts the students to inquire, being the one setting the educational outcomes

and the topic of choice in Inquiry-Based Learning Strategy. 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. Similarly, in Group-Based Learning Strategy, students do not have full control over the selection, pace and sequence of knowledge construction. Indeed, the teacher is ascribed the role of facilitating the exchange of opinions and actions within groups, observing verbal communications between group members, providing constructive criticism, following up on group work as well as using evaluation tools to assess progress (Science Teacher Guide; Social Studies Teacher Guide). Although the actions underpinning this pedagogical practice are aligned with student-centred pedagogy as described by Westbrook et al. (2013), it is the teacher that ultimately has control over class interactions. The teacher guides suggest that the teacher is to set the learning outcomes, decide the number of students per groups, prepare the learning resources needed as well as assign roles for each group members (Science Teacher Guide; Social Studies Teacher Guide). This suggests 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 student-centred 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.”

Further analysis revealed a discrepancy between the description of learning activity in Activity-Based Learning Strategy and an earlier definition of the word ‘activity’ in the teacher guides. Indeed, both the Science Teacher Guide (p.320) and Social Studies Teacher Guide (p.167) define activity as “the cognitive or physical effort that the learner or teacher goes through to achieve a goal”. The use of the words ‘or teacher’ suggests a binary opposition of student *versus* teacher involvement which does not sit well with the constructivist approach mentioned in Activity-Based Learning Strategy.

Moreover, in Critical Thinking Learning Strategy, the teacher has to choose topics and scenarios that incorporate critical thinking and devote time throughout the lesson for practicing those skills along with the students (Science Teacher Guide; Social Studies Teacher Guide). Interestingly, the teacher guides suggest teachers use *direct* teaching techniques to ‘teach’ students how to think

critically. The teacher has to demonstrate how to think critically by presenting different viewpoints themselves. Students learn to think critically by observing the teacher, practicing thinking out loud and presenting their viewpoints and justifications (Science Teacher Guide; Social Studies Teacher Guide). This seems to align with the findings of Innabi and El Sheikh (2006) over the ‘misconceptions’ of Jordanian teachers regarding critical thinking which include their lack of understanding of its dialogic nature and a failure to develop learning scenarios where critical thinking could be applied.

All in all, the review of the theoretical framework and the six instructional teaching strategies presented in the General Framework for Curricula and Assessment and the teacher guides demonstrate that the lower primary curriculum holds some very mixed and contradictory messages. On the one hand, ‘active learning’ where the student is heavily involved in the construction of knowledge through analysis, inquiry and critical thinking is highly encouraged, and the emphasis on inquiry-based learning, group work and collaboration suggests the desirability of an integrated code. On the other, the roles specified for both the learner and the teacher within the six strategies described above indicate a tendency towards strong classification and strong framing, in particular of what is to be learned, and its evaluation, which is consistent with a collection code.

Analysis of the grade three Science and Social Studies Textbooks further contributes to the understanding of classification and framing within the national curriculum. To illustrate, Tables 1 and 2 below present a list of the units and lessons specified in both textbooks, while Table 3 presents the class periods allocated for each subject, which are prescribed by the MoE for teacher use. Teachers, especially those working in public schools, are required to cover all of these units at the pace and sequence suggested by the MoE, which may constrain teachers in using a more student-centred approach to teaching and learning (Qablan et al. 2010; Mustafa and Cullingford, 2008).

Table 1: Allocation of Science Lessons per Unit

Table 2: Allocation of Social Studies Lessons per Unit

**Table 3: Allocation of Classroom Periods per Subject in the Lower Primary Curriculum
(grades 1-3)**

Drawing on Bernstein (1977), it is clear from looking at the total number of lessons in Tables 1 and 2 and the number of periods allocated to science per week in Table 3 that science as a subject/area of knowledge is considered ‘higher status knowledge’ i.e. given more weight (10%) over social studies (6%) in the lower primary national curriculum.¹ Furthermore, the strict allocation of classroom periods per subject suggests strong boundaries between these subjects, which indicates that they share a ‘closed relation’ with one another and therefore have strong classification. We have seen above that some teaching strategies encourage teachers to use project based approaches and group work. However the strong classification suggested in Tables 1, 2 and 3 mean that any use of such strategies is likely to be confined within the boundaries of one particular aspect of a subject area, rather than involving more integrated projects that might span different topics and subjects.

To illustrate the extent to which student-centred pedagogy is conveyed within the lower primary textbooks analysed, three activities presented in one lesson of Unit 3 of the Social Studies Textbook (pp. 83-84) were examined closely. These exercises discuss the child’s rights in school, demanding that these be realised with the direct involvement of the teacher, despite the fact that the pedagogical strategy recommended for these three activities within the guide is Group-Based Learning (Social Studies Teacher Guide, 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 recognized. A discussion takes place where the teacher informs them of their rights and trains them in the proper way to attain them. [First author’s translation]

(Social Studies Textbook, p.84)

¹The number of classroom periods per week for both science and social studies was reduced to 2 and 1 respectively as of the 2014/2015 academic year.

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, illustrating the extent to which student-centred pedagogy is mediated - and mitigated - in the national curriculum.

Similarly, the activity presented in Lesson 4 of Unit 5 of the Science Textbook (p.151), which is about the use of simple tools, asks the students to try to open two identical cans, one with their bare hands and one by using a spoon (see Figure 1 below). The exercise concludes by providing students with the educational outcome, instead of having them 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 makes us use less force. [First author’s translation]

(Science Textbook, p.151)

Figure 2: Activity- Why Do We Use Simple Tools?

Although the science teacher guide for grade three recommends the use of a student-centred strategy, Group-Based Learning, as the preferred pedagogy for this particular activity (Science Teacher Guide, p.102), students are provided with the conclusion, thus limiting their full participation in the construction of knowledge. Therefore, these two activity examples point to a more restrictive role for the student in the process of learning despite the student-centred emphasis in parts of the teacher guides. Moreover, although use of Group and Activity-Based Learning is encouraged within the General Framework for Curricula and Assessment as well as within the teacher guides, it is ultimately the teacher who is in control of the activities undertaken. This also further illustrates the extent to which student-centred pedagogy is constrained within the national curriculum, particularly given its propensity with a collection code identified above. Overall, in addition to high pupil-to-teacher ratio and time constraints, the analysis suggests that the collection code of the national curriculum combined with its mixed assumptions about the framing of the

curriculum in the classroom could readily work as a barrier to the effective implementation of student-centred education.

VI. Conclusion

Jordan has sought in recent years to improve the quality of teaching and learning provided to its citizens through the use of student-centred methodologies in alignment with national and international best practice. Although the reform efforts made are commendable, these have missed on a key aspect of the curriculum design: the curriculum model and its implications for the adoption of student-centred teaching and learning. This has also been neglected in the research concerning the challenges facing the adoption of a more student-centred approach to teaching and learning, which covers issues related to pupil-to-teacher ratio, poor pre and in-service teacher training and the centralised nature of the education system. While all are important, a review of the written curriculum and its propensity for student-centred teaching and learning seems paramount and a necessary step before exploring how the curriculum is enacted in the classroom and the challenges that hinder the implementation of student-centred education, especially as the Jordanian education system is already under extreme pressure as a result of the ongoing Syrian refugee crisis.

Through a Bernsteinian lens, close inspection of the lower primary written curriculum i.e. syllabi and instructions for teachers, reveal strict allocation of classroom periods and units/lessons per subject, which the MoE instructs teachers to abide by. More importantly, a high degree of insulation is identified between subjects i.e. the learning outcomes in science differ from the learning outcomes in social studies, and vice versa. Little connection is made between what is learned in science, with what is learned in social studies and so on. This level of boundary between subject-specific learning outcomes/content indicates that these subjects are constructed in a closed relation with one another, and therefore have strong classification. Furthermore, based on the level of control given to teachers and students within teaching and learning i.e. how much teachers and students have a say in the pace and sequence of knowledge acquisition and construction, framing is often strong, or at best has mixed messages. As such, based on these aspects, the identified curricular code of the national curriculum for the lower primary level is the 'collection code,' which has implications for the power structures between teachers/students and pedagogy, namely that it may, to some extent, act as a barrier against the effective implementation of student-centred

teaching and learning. This is because, as argued in earlier sections of this paper, student-centred pedagogy requires some leeway in the pace and sequence of knowledge construction and acquisition, which is more associated with integrated curricula codes.

Furthermore, although the General Framework for Curricula and Assessment and the teacher guides reviewed promote the use of active pedagogical practices such as critical thinking, problem-solving and activity-based learning that place students at the centre of the learning experience, close inspection of these pedagogies reveal the constricted role of students and the still dominant role of the teacher when using such strategies. Indeed, five of the six strategies identified within the written lower primary curriculum 'assume' a more student-centred approach to teaching and learning. However, the roles specified to students within these five strategies remain overshadowed by the teacher. For example, Critical Thinking Strategy, which demands that students think for themselves, is highly dependent on the teacher 'teaching' students through the use of direct teaching techniques how to think critically. Importantly, the teaching strategies emphasised in the General Framework for Curricula and Assessment, teacher guides and selected textbooks suggest that these strategies are contradictory, indicating in some areas strong classification/framing specific to a collection code, and in other areas weaker classification/framing specific to an integrated code. As such, the analysis of these contradictory messages demonstrates that reforming teacher pedagogies requires engagement with their epistemological and theoretical premises, and is much more complex than the binary teacher vs. student-centred pedagogy suggests, all of which poses questions for Jordan's aspirations to adopt 'progressive' pedagogies.

.Last but not least, it is important to acknowledge the impact of the Syrian refugee crisis on the quality of education. The crisis has compromised progress against component three of ERFKE II, which deals with improving the quality of teaching and learning in Jordanian schools. In particular, as described in earlier sections of the paper, within the last three years there has been an increase in classroom overcrowding (from 36.6 % to 46%) and the introduction of double shift schools (from 7% to 11.7%), which has led to a reduction in the instructional time available for students (MoE, 2014). These issues have resulted in a shortage of qualified teachers and made it difficult for the MoE to provide adequate training to newly appointed teachers. As Schweisfurth (2013) has pointed out, lack of adequate teacher training and preparation, as well as pressures on teachers to

'deliver' the curriculum are both critical issues which readily compromise attempts to introduce learner-centred education. Although it would clearly require empirical research to explore the recontextualisation of the curriculum within Jordanian classrooms, confusion in the pedagogic messages embedded in the curriculum only compound the difficulties faced by teachers.

Overall, the paper argues that the depiction of the concept of student-centred education within the curriculum should be reviewed by curriculum experts in order to support teachers better in moving towards 'progressive' pedagogies. This in itself will not of course remove the wider pressures on the education system, but might at least help to relay a more coherent pedagogic message to teachers who are working under stress to cope with the extreme pressures they are currently facing given the proximity of Jordan to the crisis in Syria.

VII. References

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