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# Influence of culture on curriculum development in Ghana: an undervalued factor?

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Curriculum implementation often falls short because of a lack of cultural understanding by curriculum developers and aid organizations. This paper describes a single-case study of a professional development programme for polytechnic Heads of Department in Ghana, which aimed at identifying how curriculum development activities were sensitive to culture. A conceptual framework for culturally sensitive curriculum development was applied to facilitate the identification of culture in the curriculum development process. Two curriculum specialists and various project members from Ghana and the Netherlands participated in the data collection by means of interviews, documents, and a researcher's logbook. Results showed that the conducted curriculum development activities were strongly impacted by Hofstede's cultural dimensions—High-Low Power Distance and Collectivism–Individualism and to a limited extent by Hall's cultural dimensions—High-Low Context and Polytime-Monotime. The outcomes of this study strengthen the relevance of Context analyses, iterations of design–implementation–evaluation activities, and additional implementation support. Through the conduction of these activities, culture can be taken into account in curriculum development processes and a good fit between the developed curriculum and the local context can be ensured. Furthermore, this study encourages curriculum developers and project teams working in international cooperation contexts to create more cultural understanding by using the framework and by intensively collaborating with informed experts.

Keywords: curriculum development; culture; cultural context; international cooperation; case studies

## Introduction

Curriculum development plays a crucial role in establishing educational change. Many large-scale curriculum reforms are initiated to improve classroom practices and to enhance student learning. Unfortunately, these well-intentioned, well-designed curriculum reform programmes often fall short. The Task Force on Higher Education and Society (2000) and

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Verspoor (2001) address generic causes of curriculum reform failure in developing countries, like under-qualified teachers, lack of textbooks and insufficient classrooms. According to Barab and Luehmann (2003), curriculum development frequently fails because of a lack of clearly well-thought implementation strategies that take into account the local context. Poor contextual and cultural understanding by curriculum developers and aid organizations leads to cultural mismatches on a national cultural level (Chisholm and Leyendecker 2008, Kealey et al. 2005, Rogan and Grayson 2003, Thomas 1997). If institutional settings and culture are not taken into account, curriculum innovations are only superficially implemented (Rogan 2007, Rogan and Aldous 2005). Besides, replications of already existing practices (McLaughlin 2009) do not sustain over time (Hopkins 2001).

To account for high quality curriculum development and to ensure curriculum implementation, a culture-sensitive approach to curriculum development is necessary. Curriculum developers need to understand how curriculum development activities are sensitive to cultural characteristics (Nguyen et al. 2006, Rogan and Grayson 2003). Only if concepts, approaches and activities are critically analysed and adapted to the local context, rejection of the curriculum innovation at a later stage can be prevented (Berkvens 2009). In a previous study (Gervedink Nijhuis et al. submitted for publication), we developed a conceptual framework for culturally sensitive curriculum development. This framework is meant to facilitate the analysis of curriculum development activities and conditions on national culture. The current study aims at identifying and analysing how culture impacts curriculum development activities leading to a professional development programme for polytechnic Heads of Department (HoDs) in Ghana. This programme was jointly developed by curriculum specialists from Ghana and the Netherlands. First, the context of the curriculum development endeavour and the framework for culturally sensitive curriculum development will be described, focusing on main curriculum development activities. Second, the research methods and results will be presented. Finally, we will discuss the implications of the study for developers and project members who are working on curriculum development in international cooperation contexts.

### Polytechnic education in Ghana

Ghana is divided into 10 regions. Each regional capital locates a polytechnic which has Business and Management, Engineering and Applied Sciences studies. Differences between the polytechnics exist in the number of students, staff members and studies offered. In 1993, based on a review of the entire educational system (Government of Ghana 1991), polytechnics in Ghana became tertiary level educational institutes offering higher technical vocational courses. Since the upgrade from secondary level to tertiary level education, polytechnics are facing numerous problems. These problems concern, for example, the quality of teaching and learning, and the link with industry (Effah 2005, Nsiah-Gyabaah 2005, President's

Committee on Review of Educational Reforms in Ghana 2002). Teachers suffer from a high workload and some teachers do not have the required master degree. Opportunities for staff development are scarce and the number of students in the polytechnics is high; sometimes over 200 students attend a lesson. Many students do not finish their study at the polytechnic and those who graduate find it difficult to obtain employment in the labour market.

Referring to the existing problems and challenges at Ghanaian polytechnics, institutional changes are needed (JICA 2001). Polytechnic managers might create opportunities to initiate and implement the necessary changes, yet many of them are, above all, teachers who have not participated in any management training. In addition, existing management programmes in Ghana do not focus on the unique context of the polytechnics. HoDs, in particular, lack knowledge and skills to effectively lead their departments. As a result, departmental goals are absent; problems of recruitment and retention of staff occur; course curricula have not been reviewed for the past 10 years; and there is resistance to change (Gervedink Nijhuis *et al.* 2009, Nsiah-Gyabaah 2005). To cater for the pressing needs of the polytechnics, a management and leadership capacity building project was initiated. As part of this project, a professional development programme for polytechnic Heads of Department (PDHoD) was developed.

### Context of the study: professional development programme for polytechnic managers

The Netherlands Government supported a four-year project in which a broad team of curriculum specialists, educational change facilitators and information and communication technology (ICT) support staff from Ghana and the Netherlands collaborated. The project aimed at enhancing the leadership and management capacity in the Ghanaian polytechnics. The development of PDHoD was one of the sub-projects of this four-year project and was led by a Ghanaian and a Dutch curriculum specialist, who were members of the broader project team. The PDHoD intended to support the polytechnic HoDs to improve leadership in core academic management processes. The programme was developed in 2008–2009 and consisted of five workshops of two-and-a-half days each and two conferences. The programme specifically focused on the practical application of management concepts, principles, tools and procedures. It also included various practical assignments given during and after the workshops. The group of participants consisted of five HoDs from each polytechnic, which was divided into a sub-group from the northern polytechnics and a sub-group from the southern polytechnics. Each workshop was successively offered in the northern and southern part of Ghana by the two curriculum specialists. In addition to the workshops, two conferences were organized by the broader project team: (1) a Learning Conference after the third workshop and (2) a Sustainability Conference after the fifth workshop. During these conferences, a selection of HoDs attend-

ing the professional development programme met with polytechnic top managers, coordinators and administrative staff. The aim of these conferences was to establish a link between PDHoD and the change processes initiated in the polytechnics. In our study, the curriculum development process that led to the professional development programme was analysed by applying a framework for culturally sensitive curriculum development. In this way, the curriculum development activities that were subject to culture could be identified.

## Culturally sensitive curriculum development

To facilitate the identification of culture in the curriculum development process, a conceptual framework for culturally sensitive curriculum development was used in this study. The origins of the framework were based on expert review studies and literature analyses. Systematic surveys of the concepts: culture, curriculum development and international cooperation were conducted (Gervedink Nijhuis *et al.* submitted for publication). According to Stephens (2007), culture is: (1) the knowledge and ideas that give meaning to the beliefs and actions of individuals and societies and (2) the ideational tool which can be used to describe and evaluate that action' (p. 29). Culture can be identified at visible and invisible levels (Hofstede 1980, Spencer-Oatey 2000, Trompenaars and Hampden-Turner 1997) and helps to interpret and value motives and behaviour of people and societies. Since schools are embedded within cultural systems (Dimmock and Walker 1998, 2000), societal and organizational cultures strongly influence the educational structures, processes and practices involved in educational reform (Dimmock and Walker 2002, Hallinger and Kantamara 2000, Lumby *et al.* 2009). According to Dimmock and Walker (2002), societal cultures impact the more explicit organizational cultures, whereas the organizational values, beliefs and norms can be managed and changed; deeper underlying values of societies are more enduring.

Mfum-Mensah (2005, 2009) has documented influences of Catholic and Islamic religion on education in Ghana in the precolonial, colonial and the early postcolonial era. The study by Dei Ofori-Attah (2006) examined the historical development of curriculum and its cultural context in British West Africa and made a relevant observation: that culture and curriculum development were determined by the British educational system in Ghana for quite a long time. Only recently, African nations have started to establish an autonomous education system incorporating elements of an autochthonal culture. This underscores the importance of recognizing culture when developing curricula.

Curriculum development processes play a crucial role in supporting the implementation of educational change at the level of classroom practice and student learning. Van den Akker (2003, p. 2) defines curriculum development process as:

usually a long and cyclic process with many stakeholders and participants; in which motives and needs for changing the curriculum are formulated; ideas are specified in programmes and materials; and efforts are made to realize the intended changes in practice.

Curriculum development has three perspectives: substantive, technical-professional and socio-political (Goodlad 1979). Two of the perspectives, the technical-professional and the socio-political, are of particular interest in our study because of the hypothesized role of culture in curriculum development activities carried out by curriculum specialists from Ghana and the Netherlands. The *technical-professional perspective* refers to the process of developing, improving, installing or replacing curricula (Tyler 1949). Development tasks can be categorized under analysis, design, development, implementation and evaluation activities (Wedman and Tessmer 1993), though, variation can still exist in the order of the activities, the integration of activities and the settings in which activities are conducted. The perspective that curricula cannot stand on their own but must be fitted to societal conditions and political views on curricula refers to the *socio-political perspective* (Goodlad 1979). Various (cultural) factors and trends in the local context affect the process of educational change, like government policies, technological innovations and stakeholders' pressure (Fullan 2007). Therefore, culture is considered very influential on the socio-political perspective.

The conceptual framework developed in a previous study, consists of three components—Curriculum Development Process, Practice and Cultural Frame of Reference (Gervedink Nijhuis *et al.* submitted for publication). Since the influence of culture on the curriculum development process will be examined in our study, the components Curriculum Development Process and Cultural Frame of Reference are relevant.

The *Curriculum Development Process* and its constituting activities are supposed to be influenced by culture. Findings from the literature analysis and expert' reviews (Gervedink Nijhuis *et al.* submitted for publication) indicated that curriculum development activities conducted as part of 'Context analysis', 'Design by iterations' and 'Sustainable implementation' are particularly sensitive to cultural and contextual influences. Analyses of the learners (the target group), the immediate environment (the curriculum), the organization (the school organization, school environment and political context) (Tessmer and Richey 1997) and the needs for curriculum development (the gap between the current and desired situation) (Kaufman 1982) enable curriculum developers to effectively accommodate to the existing context (Tessmer and Harris 1990). Iterations of analysis, design, development, evaluation and revision activities can be used to create a more comprehensive understanding of the context (Nieveen 1999). Especially formative evaluation (Scriven 1967) is seen as a key activity throughout the development process because it facilitates curriculum developers to better suit the curriculum to the local context by sharpening the curriculum design specifications (Tessmer 1993). Furthermore, schools need to invest in activities to implement the change initiatives within their structures, organization and resources, and to ensure sustain-

ability of these activities (Hargreaves 2002). The capacity to innovate determines the ability of the school to implement the curriculum. This capacity includes physical resources, teacher factors, learner factors and the school ecology and management (Rogan and Grayson 2003). Organizations outside the school (i.e. governmental departments, local and international donors, non-governmental organizations and unions) can also facilitate the implementation of curriculum innovation through activities of outside support.

The *Cultural Frame of Reference* includes the dimensions of culture which might affect curriculum development processes and educational practices. A subset of Hofstede's dimensions (1980) on national culture was used in this study—High–Low Power Distance and Collectivism–Individualism. Each dimension is described by the two ends, reflecting ideal types. The High-Low Power Distance dimension applied in our study pertains to the extent to which decision-making structures are (de)centralized in school organizations, subordinates do (not) expect to be involved in decision-making, information is (not) shared, and whether teachers or students steer the learning processes. The Collectivism–Individualism dimension involves the extent to which members of the organization act in group interest or own interest, whether they work best in teams or individually, and whether decisions made by groups or by individuals are preferred. Furthermore, the importance of cultural influences related to communication and conflict solving led to the inclusion of the dimensions—High–Low Context and Polytime–Monotime (Hall 1959, 1969). The High–Low Context dimension (Hall 1976) includes the extent to which individuals need background information to be able to act, individuals do (not) compartmentalize personal relationships and work, whether individuals act when problems arise and spell out exactly their messages, and whether persons are alert to suggestions of criticism. The Polytime–Monotime dimension (Hall 1976) concerns the extent to which individuals perceive time commitments as intentions or strict deadlines, whether individuals often change plans or stick to them, and whether extensive relationships are needed as a condition for work. This component can differ between societies involved in international cooperation which may cause misunderstandings in the curriculum development processes. As a result, failures of educational innovations in practice may occur. As stipulated above, schools are embedded within cultural systems and, therefore, societal culture and organizational cultures strongly influence educational reform. Societal culture impacts the more explicit organizational cultures.

To illustrate, Nguyen Phuong-Mai *et al.* (2005) debate situations in which western concepts of constructivism and cooperative learning characterized by Low Power Distance are implemented in High Power Distance societies. This ended in failures, suspicion or resistance. According to Vavrus (2009) and Jansen (2006), cultural traditions are overlooked and curriculum reform is pressured when applying a single global approach promoted by international development agendas. The implementation of student-centred teaching methods and outcome-based education (Low Power Distance) in African schools with a more teacher-centred pedagogy (High Power Distance) is just one of the examples.

### Research questions

In this study, the two components of the framework developed in our previous study were applied to identify and analyse the presence of cultural dimensions and their respective ends in curriculum activities. These activities were accomplished by the curriculum specialists and the broader project team to develop PDHoD in Ghanaian polytechnics' context. In particular, we focused on curriculum activities conducted as part of 'Context analysis', 'Design by iteration' and 'Sustainable implementation'. By analysing these curriculum development activities on culture, curriculum developers are facilitated to account for culture. Furthermore, these activities help to make sure that the developed curriculum fits the context in which curriculum reform is intended. The main research question of this study was:

> How were activities as part of Context analysis, Design by iteration, and Sustainable implementation to develop a professional development programme for polytechnic HoDs in Ghana sensitive to culture?

This research question was divided into two sub-questions:

RQ1. Which curriculum development activities related to Context analysis, Design by iteration and Sustainable implementation were conducted?
RQ2. Which cultural dimensions and their ends affected these curriculum development activities?

The first research question aimed at specifying which curriculum development activities were carried out by the curriculum specialists and the members of the broader project team. The second research question specifically addressed the identification of cultural dimensions and their ends in the conducted curriculum development activities. This question was studied from the perspectives of the Dutch and Ghanaian curriculum specialists and the broader project team.

## Method

### Research design

A single-case study approach was used to observe phenomena in their contexts (Yin 2003). The case was the development process of PDHoD and the units of analysis were the curriculum development activities as part of Context analysis, Design by iteration and Sustainable implementation. The broader project team created the contextual conditions in relation to the case. Qualitative data were collected by means of various instruments. By using multiple data sources, the collected data were triangulated to ensure construct validity (Denzin and Lincoln 2000, Yin 2003). The reliability of the case study was assured by using data collection protocols and by documenting the collected data in databases (Yin 2003).

*Participants*

The two curriculum specialists, who were also the workshop leaders, contributed to this study. The curriculum specialist from Ghana was a management consultant who also held the position of senior lecturer in Business Administration at a Ghanaian university. The curriculum specialist from the Netherlands was working at a Dutch university. He is specialized in curriculum development in international educational projects. Both curriculum specialists were male, between 55 and 65 years old, and had much experience in living abroad and working in international contexts. The broader project team consisted of a project supervisor from the Netherlands, a project coordinator from Ghana and a project coordinator from the Netherlands and educational change facilitators and ICT support staff from Ghana and the Netherlands.

*Instruments*

Various instruments facilitated the data collection before, during and after the implementation of PDHoD related to the research questions (see table 1).

Semi-structured interviews with the curriculum specialists and document collection both aimed at identifying which activities were performed (RQ1) and which cultural dimensions affected these activities to develop PDHoD (RQ2). In the *interviews with the curriculum specialists*, they were asked about the development activities undertaken, about the intended and implemented PDHoD and about the (supposed) factors influencing the transfer of the attained programme. *Document collection* consisted of progress reports of the project team, design documents, annual reports and reports of meetings. Relevant documents were selected based on the following criteria: (1) the documents were written by the curriculum specialists of the professional development programme or by members of the broader project team and (2a) the documents reported about the development process of the professional development programme or (2b) the documents reported about the set up, progress and/or evaluation of the overall project with implications for or reflections on the development process of the professional development programme.

The first author kept a *researcher's logbook* to complement to the data collected by the interviews and documents. The logbook included workshop and conference observations and notes from informal conversations and project team meetings. The curriculum components as defined by van den Akker (2003), including learning activities, teacher role, grouping and time, were used to structure the field notes.

**Table 1. Overview of instruments per research question within time.**

| Research question | Instrument | Point in time | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | BP | BW | DW | AW | AP | LC | SC |
| RQ1 | ICS | * | * | | | | * | * |
| | DC | * | * | * | * | * | * | * |
| | RL | | | * | | | * | * |
| RQ2 | ICS | * | * | | | | * | * |
| | DC | * | * | * | * | * | * | * |
| | RL | | | * | | | | * |

*Instrument*
ICS    Interview Curriculum Specialist (*n* = 2 each workshop)
DC    Document Collection (*n* = 73)
RL    Researcher's Logbook

| *Time* | *Description of time* |
|---|---|
| BP | Before/start of programme |
| BW | Before/start workshop |
| DW | During workshop |
| AW | After/end workshop |
| AP | After/end programme |
| LC | During Learning Conference |
| SC | During Sustainability Conference |

*Procedure*

All the data were collected at the venue of the workshops and conferences in Ghana. Before the start of each interview, the curriculum specialists were informed about the focus of the interview and their anonymity was assured. The questions for the interview along with the instruction were sent by email when the first author could accidentally not attend the workshop. She only provided the curriculum specialists with general feedback based on research insights if this input seemed necessary for the implementation and effectiveness of PDHoD. She also supported the curriculum specialists in workshop sessions about the transfer of learning and the evaluation of PDHoD.

*Data analysis*

The interviews with the curriculum specialists, the documents and the logbook data were converted into transcripts and subsequently coded. A coding scheme was developed to facilitate the data analysis. This scheme included the curriculum development activities which were split up in various sub-activities. For instance, the activity School analysis was sub-divided into 12 sub-activities like analysis of school leadership, decision-making, communication and planning; Curriculum analysis was sub-divided in 10 activities like analysis of the aims and objectives, the content, learning activities and teacher role. Each sub-activity of the curriculum development process was operationally defined. For instance, under the development activity Design related to 'Design by iteration', the sub-activity Design of principles was distinguished and operationally defined as 'Development of guidelines which support designers to select and apply the most appropriate substantive and procedural knowledge for specific curriculum design and development tasks'. This code was used to classify, for example, data from one of the interviews with the curriculum specialists: *'But first you have to acquire knowledge and secondly apply those practices. Problems for transfer have to be taken into account'*. To ensure the internal validity of the coding, a subset of the data was also coded by a second coder. The analysis, which was part of a broader study, showed a Cohen's kappa score of 0.77, which indicated sufficient interrater agreement.

   To further facilitate the data analysis, the four cultural dimensions were operationally defined and contextualized. These operationalizations were related to schools and educational systems, work organizations and political systems as defined by Hofstede (1980, 2001) and described by Hall and Hall (1990). For instance, Hofstede's Power distance dimension incorporated 'Students dependent on teachers vs. Teachers treat students as equals' and was used to identify Low Power Distance in data from interviews with the Ghanaian curriculum specialist noting, *'The training approach is showing the participants how they can think and is putting them in situation in which they can generate own ideas for solving problems.*

*They should not depend on us!*'. Another example related to Hofstede's Collectivism–Individualism dimension is '*Employees act in the interest of their in-group, not necessarily of themselves* vs. *Employees supposed to act as "economic men"*'. This was used to identify Individualism in interview data from the curriculum specialists, for instance:

> Some assignments involve resources (…). It is part of Ghanaian culture that you feel socially responsible to provide soft drink. People feel that kind of pressure. (…) it is more a give and take situation, you invite us to do something for you, so …(…) there should be a form of recognition, or other forms of reward for us to do it.

## Results

### RQ1. Which curriculum development activities were conducted?

Table 2 provides an overview of the curriculum development activities that actually took place in the project. The table shows that most Context analysis activities and activities to ensure a sustainable implementation were conducted by the broader project team. The curriculum specialists especially focused on the iterative development of PDHoD.

Most of the Context analysis activities were performed by the broader project team in which the Ghanaian curriculum specialist was involved as informant. At a later stage, the Ghanaian curriculum specialist became a member of the broader project team. The Dutch curriculum specialist also joined the project team due to changes in the composition of the project team. Both curriculum specialists were involved in the analysis of the HoDs' needs during the preparation of PDHoD. By performing additional Context analysis activities, further insights into the HoDs' tasks and needs were acquired by the curriculum specialists during the implementation of PDHoD. Concerning the activities under Design by iteration, the Dutch curriculum specialist and other project members from the Netherlands took the initiative to design, adjust and evaluate PDHoD. They also discussed the programme with the Ghanaian representatives. The specific workshops included in PDHoD were designed, implemented and adjusted by the Ghanaian and Dutch curriculum specialists. They discussed the design of each workshop and used insights and expectancies from former workshops to adjust and improve the remaining workshops. The formative evaluation of each workshop, the overall programme and the transfer of learning was done by the researcher. She provided input for the curriculum specialists to generate ideas to improve PDHoD. During the workshop sessions, the HoD's mentioned factors which supported or hindered the sustainability of PDHoD and discussed polytechnic actions to support the implementation of change. These reports informed the curriculum specialists. Outside support for the polytechnics was provided by the broader project team during the implementation of PDHoD. The monitoring of the HoDs at their polytechnics was not part of the programme design.

Table 2.  Specification of curriculum development activities performed by the curriculum specialists and/or broader project team.

| | Specification of activity | Performer[a] | |
|---|---|---|---|
| | | CS | BPT |
| *Context analysis* | | | |
| Political context analysis | Collection of national policy documents [DC], stakeholders' meeting [DC], meeting polytechnic councils [DC], visits to stakeholders [DC] and stakeholders' conference [DC] | | X[b] |
| School environment analysis | Stakeholders' meeting [DC], visit to stakeholders [DC] and stakeholders' conference [DC], | | X[b] |
| School analysis | Letter to council of polytechnic rectors [DC], stakeholders' conference [DC], visits to polytechnics [DC] and analysis of polytechnic change agendas [DC] | | X[b] |
| Curriculum analysis | Visits to stakeholders [DC], stakeholders' conference [DC] and visits to polytechnics [RL] | | X[b] |
| Target group analysis | Visits to stakeholders [DC], stakeholders' conference [DC] and visits to polytechnics [DC] | | X[b] |
| | Discussion of professional profile for HoDs [ICS], theoretical analysis of task and duties HoDs [ICS] | X | |
| Needs analysis | Visits to polytechnics [DC], stakeholders' conference [DC] and stakeholders' meetings [DC] | | X[b] |
| | Workshop polytechnic top managers [ICS;DC], experiences top management training programme [ICS] and distribution of research questionnaire [ICS;DC] | X | |
| *Design by iteration* | | | |
| Design | Design and adjustment of PDHoD [ICS;DC] | X | X[c] |
| | Design and adjustments of PDHoD workshops [ICS;DC] | X | |
| Implementation | Implementation and adjustment PDHoD [RL] | X[d] | |
| Evaluation | Evaluation of PDHoD [ICS;DC] | X | |
| | Generation of ideas for improvement PDHoD [ICS;DC;RL] | X | X[b,c] |
| | Internal PDHoD evaluation [DC;RL] | | |
| | Internal project evaluation [DC], organization of Sustainability Conference [ICS;DC] and visit to stakeholders [DC] | | |
| *Sustainable implementation* | | | |
| Capacity to innovate | Activities to increase innovation capacity during PDHoD implementation | e | |
| | Generation of ideas to increase capacity [ICS;DC] | | |
| Outside support | Organization of Learning Conference [DC], meeting with top management and change coordinators [ICS;DC], few monitoring visits to polytechnics for change agenda [DC], development of documentation centre and academic master programme at university [DC] and joint publication of source book [DC] | | X[c] X[c] |

[a] CS = curriculum specialists; BPT = broader project team.
[b] Ghanaian curriculum specialist involved as informant.
[c] Ghanaian and/or Dutch curriculum specialist involved as part of broader project team.
[d] Activity performed by researcher, which informed curriculum specialists.
[e] Activity performed by polytechnics and reported by HoDs which informed curriculum specialists.

*RQ2. Which cultural dimensions and their ends affected the curriculum development activities?*

Table 3 provides a general overview of the cultural dimensions and their ends that were identified in the curriculum development activities related to Context analysis, Design by iteration and Sustainable implementation (presented as shaded areas) as perceived by the Ghanaian and Dutch curriculum specialists and the broader project team. In the following sections, these cultural dimensions will be discussed and illustrated.

### Context analysis

The analysis of the activities carried out as part of the Context analysis indicated High Power Distance in the political context, the environment of the polytechnics, in the polytechnics themselves and within the target group. Reports about meetings with stakeholders and documents collected by the broader project team showed that the polytechnics are closely supervised by national bodies. Many decisions about accreditation, curricula, syllabi, student assessment and financial budgets are taken at national level. Within the polytechnics, decisions about finance, human resource management, curriculum review or other academic matters are taken by top management leaving just a few responsibilities for deans and HoDs. The position of HoDs in the polytechnics seems somewhat ambiguous. On the one hand, HoDs do not have much formal responsibility and are subordinate to the top management (High Power Distance) in the polytechnics. On the other hand, they are the 'primi inter pari' among other departmental staff which do not enable them to exert much power. This can be illustrated by the following citation:

> The appointment [as HoD] is only for a 2 year period, after which one of the other staff may take over the position. Consequently, the status of Head is still largely one of 'primus inter pares' and the 'power distance' between the Head and other staff members is not very large. In terms of formal responsibilities and decision-making power, most functions rest with top management and the central administration.

Contrary to the High Power Distance identified in the political context and the environment of the polytechnics, the broader project team noticed something else during needs analysis activities. The stakeholders involved in deciding upon the purpose for PDHoD asked for a professional development programme that was demand-driven and relevant to the needs of students and industry. This could be characterized as Low Power Distance:

> Management should change their view of students. They [the managers] should be more demand driven to serve the demands of students.

Hence, although the Context analysis activities demonstrated High Power Distance as a characteristic of culture in and surrounding the poly-

**Table 3. Cultural dimensions and their ends identified in the curriculum development activities.**

|  | Power Distance | | Collectivism | | Context | | Time | |
|---|---|---|---|---|---|---|---|---|
|  | High | Low | Coll | Ind | High | Low | Poly | Mono |
| **Context analysis** |  |  |  |  |  |  |  |  |
| Political context analysis | ▓ |  |  |  |  |  |  |  |
| School environment analysis | ▓ |  |  |  |  |  |  |  |
| School analysis | ▓ |  |  |  |  |  |  |  |
| Curriculum analysis | ▓ |  |  |  |  |  |  |  |
| Target group analysis | ▓ |  |  |  |  |  |  |  |
| Needs analysis |  | ▓ |  |  |  |  |  |  |
| **Design by iteration** |  |  |  |  |  |  |  |  |
| Design |  | ▓ | ▓ | ▓ |  |  |  |  |
| Implementation | ▓ | ▓ |  |  |  | ▓ |  |  |
| Evaluation | ▓ | ▓ |  |  |  |  | ▓ |  |
| **Sustainable implementation** |  |  |  |  |  |  |  |  |
| Capacity to innovate | ▓ | ▓ | ▓ | ▓ |  |  |  |  |
| Outside support |  | ▓ | ▓ | ▓ |  |  |  |  |

technics, the needs analysis showed a preference for a PDHoD that was demand-driven and could be characterized by Low Power Distance.

### Design by iteration

Congruent with the outcomes of the needs analysis, the design of PDHoD could be characterized by Low Power Distance. For example, the curriculum specialists perceived their role as follows:

> We will have the role of trainers who are experts in knowledge transfer (…) but also mentors and coaches. (…). [Participants] need some basic knowledge to be able to ask questions. But we are also mentors and coaches who analyse the training needs of the HoDs and adjust their training programmes.

In the design of PDHoD, the curriculum specialists also aimed for an approach that could be characterized by both Collectivism and Individualism. An example of Collectivism is the emphasis on group work and the provision of peer feedback, as illustrated in the following citation:

> Ideally, I group HoDs together who vary as much as possible from each other (…) I really prefer mixed groups (…) to stimulate that the HoDs share their experiences in an open setting.

The development of self-reflection skills and the application of problem solving tools characterises Individualism. The Dutch curriculum specialist explained:

> Through the activities included in the Peer Assisted Leadership exercise, HoDs are also encouraged to engage in reflection on their competences, their personal leadership style and the more deeper personal traits that influence their professional behaviour.

During the implementation of PDHoD, HoDs' needs and wishes were integrated into the programme. The HoDs were also stimulated to work in groups with innovative colleagues and to critically look at their own role in the change processes at the polytechnics. This pointed to Low Power Distance, Collectivism and Individualism as was identified in the design of PDHoD as well. In addition, the Ghanaian curriculum specialist motivated the HoDs to distinguish between personal relationships and work implying Low Context. Observations of the workshops showed:

> Related to the position of HoD, the Ghanaian curriculum specialist discouraged the HoDs to be corrupt and to advantage family members for available positions in the polytechnics. They should stick to rules, be objective, keep their responsibility and stay fair and firm.

Although the design and major parts of the implementation of PDHoD were identified as Low Power Distance, some workshop sessions of local Ghanaian experts included primarily teacher-centred learning methods. For example, presentations and discussions could be characterized as High Power Distance, as illustrated by an observation:

> A lot was said about how things should be done, but less attention was paid to the implementation of concrete changes and only a few exercises were provided.

PDHoD was positively evaluated by the curriculum specialists and broader project team. Especially the fit between the programme and situations at the polytechnics, and the active learning approach used at the workshops was appreciated. This implies that the choices made in the design and implementation of PDHoD corresponded with the ideas of the curriculum specialists and the broader project team. These choices could be characterized—as shown before—as Low Power Distance, Collectivism and Individualism. For example, the combination of a Dutch and Ghanaian curriculum specialist was positively evaluated referring to Low Power Distance in PDHoD:

> Through the combination of Dutch and Ghanaian consultants the danger of importing foreign examples which would not be relevant to the circumstances in Ghana was avoided.

Both curriculum specialists were critical about the involvement of the local Ghanaian experts when evaluating PDHoD. The Dutch curriculum specialist mentioned that the local Ghanaian experts took their time to complete their presentations. They also continued answering questions in

the workshops despite the tight time schedule. The Ghanaian curriculum specialist explained this characteristic of Polytime:

> Here in Ghana we say 'Time is like the sea, we have plenty of it'.

The curriculum specialists agreed that the local experts from Ghana used a more teacher-centred approach. They demonstrated their expertise, which corresponded with observations characterized as High Power Distance during the implementation of PDHoD. The curriculum specialists were also critical about the attitude of the HoDs which hindered the transfer of learning. According to the Dutch curriculum specialist, illustrating High Power Distance:

> The participants seem to perceive the development programme as an extended school class in which you learn, do your assignments, assessment takes place and no own initiative is taken.

Referring to the individual goals of some HoDs to get a higher position in the polytechnics by participating in PDHoD, the curriculum specialists did not expect that all HoDs aimed at working together on change initiatives, but instead focused on writing their own research proposal, exemplifying Individualism:

> We also expected some of them [HoDs] to prepare research proposals because research was a matter of concern to them for promotion purposes.

According to the Dutch curriculum specialist, the HoDs also lacked curiosity to try something outside what is already known. It seemed that initiatives within the existing norms, rules and procedures were preferred. Besides, HoDs were inclined to focus on the general perspectives instead of overtly expressing their individual reflections, which points to characteristics of Collectivism. The Dutch curriculum specialist explained:

> … they [the HoDs] are scared to a certain extent to make themselves vulnerable and to deeply reflect on themselves to find out the causes of their actions and behaviours and to look for possibilities to change … they do not like the idea that it might show exactly your competences.

Based on the evaluation of PDHoD, the curriculum specialists continued to emphasize the need for sharing knowledge and experiences with other innovative HoDs and the importance of reflection on HoDs' own role in the change processes in PDHoD. These initiatives of the curriculum specialists corresponded with other aspects of PDHoD (as outlined above) which were characterized by a pragmatic combination of Collectivism and Individualism.

Our analysis showed that the design and implementation of PDHoD was based on the needs of the participants (Low Power Distance) and aimed at self-reflection and taking own initiatives (Individualism) and group work (Collectivism). According to the curriculum specialists, the Ghanaian experts and HoDs seemed not always able to cope with this approach in the workshops, because they used and expected a more teacher-centred way of learning (High Power Distance) and were less time

conscious (Polytime). The HoDs' passive attitude to initiate change (High Power Distance), their individual goals as reasons to take part of PDHoD (Individualism) and their fear to be held responsible for changes to be made in the polytechnics (Collectivism) were also observed and criticized.

### Sustainable implementation

During the implementation and evaluation of PDHoD, the curriculum specialists and broader project team realized that the HoDs were hindered to implement change initiatives in the polytechnics. The High Power Distance in the political context and the polytechnics themselves influenced their capacity to innovate. As already identified in the Context analysis activities, the Dutch curriculum specialist explained the restricted responsibility and opportunities of HoDs to implement in the polytechnics what was learned in PDHoD:

> They [the HoDs] are part of a very hierarchical structure. They are directed by people at a higher level like the principal and vice-principal, so I think that they are always aware of the limited room for change.

Because of this hierarchical structure, the curriculum specialists recommended the polytechnic HoDs to call for some policy decisions at top management level to increase their capacity to innovate (High Power Distance). In addition, they suggested strategies to share information and responsibilities in the polytechnics (Low Power Distance), like the development of a plan for cascading knowledge. The implementation and evaluation of PDHoD also pointed the curriculum specialists and broader project team to hindrances in implementing change in the polytechnics. These difficulties were related to the expected time to be invested by the HoDs without remuneration. To compensate the additional work for the HoDs and to account for their individual interests, the curriculum specialists agreed that incentives should be provided. The following citation illustrates the perspective of the curriculum specialists on this characteristic of Individualism:

> Without a clear directive or incentive, HoDs seem to have other priorities and too busy to spend time on composing a portfolio.

During the implementation and evaluation of PDHoD, the broader project team also realized that the polytechnic staff members did not tend to involve colleagues in implementing change initiatives. This was identified as another characteristic of Individualism. The project team reported:

> The training of participants in subproject 2 [the development of PDHoD] has been quite successful, with respect to bringing about small (individual) changes at micro level. However, these changes were not necessarily in correspondence with the institutional Change Agendas (…) and too little consultation has taken place among the top managers, middle managers and change coordinators.

To anticipate on these characteristics of Individualism, other strategies recommended by the curriculum specialists and broader project team in the polytechnics focussed on the promotion of team work and cooperation in and between the polytechnics. Illustrating this Collectivistic change approach, the Dutch curriculum specialist believed that

> Educational change is usually a long process in which you constantly need to reflect on steps taken, implement, and evaluate, so if you can do that in a culture of 'let us do it together' (…) then it becomes much easier.

The broader project team not only advised the polytechnics how to implement change, the team also intended to actively facilitate the change processes in the polytechnics by the provision of tailor-made, outside support. Looking back, the broader project team and curriculum specialists regretted that they had not visited the HoDs in their own context of the polytechnics. They also regretted that they had not fully succeeded in the implementation of demand-driven support. This illustrates their value attached to Low Power Distance:

> The project was designed with joint activities for the Polytechnics which were good in a way (more understanding of each others context) but did not answer the specific needs within a Poly[technic]. During the evaluation it was concluded that it would have been good if project activities had also taken place at individual Poly[technic] level to provide them with tailor-made support.

To prevent the individual way of working in the polytechnics, the broader project team organized a Learning Conference. The conference specifically aimed at relating the change initiatives of the HoDs to the strategic vision of the top managers. Furthermore, the coordination and communication between the management levels in the polytechnics, and between the polytechnics and the broader project team should be improved by the conference. Apart from this attempt to strengthen group work and cooperation, characterising Collectivism, the broader project team also stimulated all key players in the project to reflect on their own role in initiating and implementing change. This was identified as Individualism.

Hence, analysis of activities to support sustainable implementation of PDHoD showed that polytechnics' capacity to change suffered from a strong hierarchical distance between the HoDs and top managers (High Power Distance), the financial expectations of HoDs and the individual way of working in the polytechnics (Individualism). The polytechnics were advised to support the change processes by strategies congruent with the existing structures and processes (High Power Distance and Individualism), to share responsibilities between management levels (Low Power Distance) and to increase cooperation and collaboration (Collectivism). The broader project team itself supported capacity building in the polytechnics by the provision of demand-driven support (Low Power Distance) and the organization of a Learning Conference which included elements of group work (Collectivism) and self-reflection (Individualism) in line with other aspects of PDHoD.

## Conclusion, discussion and reflections

In this study, a curriculum development process carried out by curriculum specialists and project team members from Ghana and the Netherlands was analysed on cultural sensitivity. The curriculum development process led to a professional development programme for HoDs of polytechnics in Ghana. The main aim of the study was to specify how curriculum development activities (comprising Context analysis, Design by iteration and Sustainable implementation) were subject to culture. A conceptual framework for culturally sensitive curriculum development was used, which was developed in a previous study. Two main components of the framework were used in this study, Curriculum Development Process and Cultural Frame of Reference.

Results of our study showed that the curriculum development activities conducted in the development process of PDHoD were congruent with the activities included in the conceptual framework. Related to Context analysis, both ends of the cultural dimension Power Distance were identified in the development activities; under Design by iteration, the two ends of the dimensions Power Distance and Collectivism were identified as well as Low Context and Polytime; and related to Sustainable implementation, both ends of the Power Distance and Collectivism dimensions characterized the activities. The identification of these cultural dimensions showed the cultural matches and mismatches within the curriculum development process.

Based on the needs analysis, the curriculum specialists and broader project team aimed to develop a PDHoD that fitted the needs of the stakeholders (Low Power Distance). In addition, they stimulated group work and peer support (Collectivism), encouraged self-reflection and individual responsibility (Individualism) and emphasized compartmentalization between work and social life (Low Context). However, the curriculum specialists noticed that the local experts used a more teacher-centred approach during the implementation of PDHoD (High Power Distance) and that they were less time conscious (Polytime). It was also shown in PDHoD that the HoDs worked more individually for their own interests (Individualism) and avoided taking individual initiative (Collectivism). This was also identified in the polytechnics' capacity to innovate. In addition, the curriculum specialists realized that the hierarchy in the polytechnics (High Power Distance) hindered the HoDs to implement change. This corresponded with the outcomes of the performed context analysis activities.

Anticipating on these characteristics and strengthening the curriculum specialists' intentions, PDHoD was adjusted and outside support activities were conducted. These changes were characterized by High and Low Power Distance, and Collectivism and Individualism. The results of our study also showed that the cultural dimensions defined at societal level affected cultural changes at institutional and organizational levels. Especially at these institutional and organizational levels, the curriculum activities were effective.

The outcomes of our study confirm the need to account for culture in curriculum development processes. Context analysis activities are necessary to identify characteristics of cultural dimensions in the early stage of the curriculum development process since they provide input for development activities related to Design by iteration and Sustainable implementation. For example, in this study, the Power Distance dimension was already identified in the analysis activities to develop PDHoD. Next, the dimension also affected activities that aimed to design and (sustainably) implement PDHoD.

By using an iterative design approach of design, implementation and evaluation activities, a deeper understanding of culture is created and strategies can be developed to better account for culture. For instance, in the course of the curriculum development process, the dimensions Collectivism, Context and Time became more apparent. This stimulated the curriculum specialists to adjust PDHoD and to emphasize activities characterized by Collectivism and Individualism.

Activities related to Sustainable implementation further strengthen and complement the cultural characteristics identified in Context analysis and Design by iteration activities. They also provide opportunities to account for culture on broader and higher levels. In this study, the activities conducted to ensure a sustainable implementation of PDHoD in the polytechnics were in line with the curriculum design, and anticipated on High Power Distance, Collectivism and Individualism identified in the Ghanaian educational context. Creation of ownership, as identified in this study, positively relates to sustainable implementation. Ownership may create a sense of involvement in the curriculum development process and prevents that curricula are developed without the incorporation of stakeholders' ideas and knowledge.

The activities to develop the curricula were aimed at meeting the needs of the Ghanaian stakeholders, yet, the execution of curriculum development activities and the implementation of the curricula in the educational practices did not always work out as intended. Based on the outcomes of our study, the following guidelines for future curriculum development processes in an international context are suggested.

First, conduct extensive context analysis activities at the early stage of curriculum development processes. These activities should aim at identifying cultural influences which could affect the curriculum development activities and the implementation of curricula in the educational contexts at a later stage. Second, interpret and analyse the outcomes of stakeholders' needs analysis as part of context analysis activities from a cultural point of view and in relation to the cultural educational contexts. In this way, demand-driven activities for curriculum development can be avoided that do not fit the contexts for which curricula are intended. Third, conduct formative evaluation activities as part of design-implementation-evaluation iterations throughout curriculum development processes. These activities should aim at continuously creating opportunities to adjust the curriculum development activities and their outcomes. As a result, cultural influences on stakeholders' preferences and on the educational contexts are accounted for.

Referring to the sub-title of this paper, the curriculum specialists and project team members are aware of culture as an important factor in educational change processes. They were eager to develop contextual relevant curricula and to fulfil the needs and preferences of the local stakeholders. Nevertheless, it remained a challenge to account for culture in curriculum development. In general, to avoid cultural mismatches, curriculum developers working in the context of international cooperation should start with critically analysing and reflecting on culture in their own curriculum development processes. By applying the framework that was discussed in this paper, curriculum developers may better understand culture and cultural mismatches in development processes. Next, these insights can be used to improve ongoing and future curriculum development endeavours.

When culture becomes more concrete and apparent, strategies may be developed to increase cultural sensitivity to curricula and to development activities. Apart from analysing development activities on culture, project team members should consider collaboration with local specialists. These specialists can play a crucial role as informed expert or mediator in international cooperation projects by facilitating curriculum implementation and creating stakeholders' acceptance in different cultural contexts. In this study, the Ghanaian curriculum specialist assisted the Dutch curriculum specialist and members of the broader project team to make PDHoD relevant to and appropriate for the Ghanaian context. Consequently, 'the best of both worlds' was offered. Whereas the Dutch curriculum specialist provided the HoDs with new, international perspectives, the Ghanaian curriculum specialist contextualized the 'western' theories and approaches, and facilitated the application of what was learned by the HoDs to the Ghanaian polytechnics. Referring to this study in which this combination of specialists from Ghana and the Netherlands was positively evaluated and the HoDs wished to involve even more local professionals, collaboration with informed experts is essential to fit the curriculum to the local context and to create stakeholders' acceptance.

The stakeholders involved in PDHoD were given suggestions by the project teams to foster sustainable implementation of the curriculum in their own practices. Based on these observations and outcomes, our study reveals the following guidelines for future projects in addressing sustainable implementation. First, facilitate local stakeholders in their activities to sustainably implement curricula in cultural educational contexts. Next, develop adjustment strategies anticipating on the role of culture in curriculum development processes, outcomes and educational contexts. By doing so, sustainable curriculum implementation within educational contexts is facilitated. Finally, strongly involve local curriculum developers in curriculum development processes. They can increase the cultural relevance and appropriateness of curricula, and can facilitate sustainable curriculum implementation within cultural educational contexts.

Based on the outcomes of our study, it is also believed that Power Distance and Collectivism often go together. Much dependency on higher level authorities (High Power Distance) seems to stimulate passing responsibility onto others (Collectivism) and a focus on own interests (Individualism), whereas low dependency on higher level authorities (Low

Power Distance) seems to encourage collaboration (Collectivism) and taking individual initiatives (Individualism) (Ng 1980, Schwartz 1994). In this respect, Triandis (1995) makes a distinction between 'horizontal' and 'vertical' Collectivism–Individualism, which implies that inequality of individuals ('High Power Distance') can be experienced within Collectivism and that equality ('Low Power Distance') can be experienced within Individualism (Singilis *et al.* 1995).

Hofstede is frequently cited (e.g. Baskerville 2003; Søndergaard 1994) because of his extensive work to make cultural differences at societal level more operational, straightforward and intuitively appealing (Kirkman *et al.* 2006). His studies on dominant social value systems resulted in the identification of five cultural dimensions of national culture (Hofstede 1980, 2001; Hofstede and Bond 1988). We realize that various researchers criticized Hofstede's work on dominant social value systems throughout the years for, among other reasons, the ignorance of within country variations (Baskerville 2003), an insufficient precise and operational definition of the dimensions (Chow *et al.* 1999) and a limited scope in methodology and measurement (Kruger and Roodt 2003, McSweeney 2002, Spector *et al.* 2001). Criticism on Hall's cultural dimensions point to the fact that characteristics of the dimensions are only based on anecdotal observations and interpretations (Hall 1976, Hall and Hall 1990, 2001) and according to Gudykunst and Ting-Toomey (1988), Zhu *et al.* (2006) and Korac-Kakabadse *et al.* (2001), congruency exist between Hall's dimensions High–Low Context and Polytime–Monotime and Hofstede's dimension of Collectivism–Individualism. Other remarks point to implicit tendencies of generalization or over-simplification by using cultural dimensions. Culture can be identified at various levels (Spencer-Oatey 2000) and economic, political, contextual or personal factors can influence educational contexts as well (Dimmock and Walker 2000).

The presentation of connotations of the cultural dimensions made the five-dimensional model in combination with the dimensions of Hall especially relevant for this study (Hall 1959, 1969, Hofstede 1980). The connotations enabled the identification of cultural influences at a more explicit and local level i.e. in curriculum development activities, educational contexts and communication strategies. However, due to conceptual disagreement with the definitions of the dimensions, not all dimensions and connotations were included in the conceptual framework. Furthermore, the selected dimensions and their ends were further operationalized and contextualized (Gervedink Nijhuis *et al.* submitted for publication). By including the two ends of the dimensions in the conceptual framework, opportunities were created to differentiate between cultural influences and to facilitate the possible influence of both ends in the same contexts. Obviously, the outcomes of this study do not weaken the importance of other factors in educational development. The study outcomes neither suggest that the same cultural dimensions can be identified in other curriculum development processes.

Culture involves the knowledge and ideas which give meaning to beliefs and actions of individuals and societies and can be used to describe and evaluate those actions (Stephens 2007). Consequently, culture influences

curriculum development processes and affects research contexts and processes. Our study might, therefore, be criticized on the possibility that the curriculum development process was scientifically analysed by using western models and theories. To strengthen the usability of the framework and its applicability to non-western contexts and cultures, a number of curriculum development theories developed in Africa provided input for the development of the conceptual framework (e.g. Rogan 2007; Rogan and Grayson 2003). Furthermore, based on suggestions offered by a Ghanaian expert, the framework was reviewed and adjusted. In addition, the Ghanaian expert reviewed data collection instruments to adjust them to the Ghanaian context. Through extensive stays in Ghana, the researcher invested much time and effort to gain a good understanding of the Ghanaian cultural context. This also stimulated reflection of the researcher on her own culture. The researcher frequently interacted with colleagues from Ghana and other countries, who shared their knowledge of their own cultural context and who gave their perspective on the study approach and findings.

According to Tsui *et al.* (2007), cross-cultural collaboration in conducting research can facilitate the transfer of knowledge across borders and ensures that cultural assumptions are clearly explicated in theories or models. The need for a culturally appropriate and collaborative approach to cross-cultural research is also emphasized by other researchers (i.e. Gibbs, 2001). Smith (1999, p. 20) calls for a 'decolonization' of research which involves *'a process which engages with imperialism and colonization at multiple levels. For researchers, one of these levels is concerned with having a more critical understanding of the underlying assumptions, motivations and values which inform research practices'*. Core values from different traditions of knowledge and living should be restrengthened and community holders of knowledge should be seen as fellow experts (Hoppers 2009).

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