A Differential Construct Methodology for Modelling Predictive Cultural Values

Béatrice Boufoy -Bastick
University of Technology, bboufoybastick@yahoo.com

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This paper presents an explanatory model of cultural behaviours, which resulted from a four-year ethnographic study of the different academic attainments in English of indigenous Fijians and the Indo-Fijians in the Fiji Islands. Fiji is a natural laboratory for investigating differential cultural behaviours because of these two culturally distinct main ethnic groups. Their different cultural behaviours were found to serve different values within each culture. A three-construct grounded model of these different values emerged from observations and analyses of these behaviours. These constructs were then de-constructed to define and explain a fourth target construct of their Differential Teaching Behaviours, which were contributing to the different academic attainments of the two cultures. The validity of the resulting four-construct model was both empirically and quantitatively ascertained and it is argued that the model can be used to predict culturally determined behaviours and educational outcomes in similar multicultural contexts.

Keywords

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Béatrice Boufoy-Bastick[+]

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This paper presents an explanatory model of cultural behaviours, which resulted from a four-year ethnographic study of the different academic attainments in English of indigenous Fijians and the Indo-Fijians in the Fiji Islands. Fiji is a natural laboratory for investigating differential cultural behaviours because of these two culturally distinct main ethnic groups. Their different cultural behaviours were found to serve different values within each culture. A three-construct grounded model of these different values emerged from observations and analyses of these behaviours. These constructs were then de-constructed to define and explain a fourth target construct of their Differential Teaching Behaviours, which were contributing to the different academic attainments of the two cultures. The validity of the resulting four-construct model was both empirically and quantitatively ascertained and it is argued that the model can be used to predict culturally determined behaviours and educational outcomes in similar multicultural contexts.

Key Words: Grounded Theory; English teaching; cultural behaviours; culture and education; mixed method methodology; Fiji

Summary

This paper presents an explanatory model of cultural behaviours, which emerged from a four-year ethnographic study, which examined the different academic attainments in English of indigenous Fijians and the Indo-Fijians in the Fiji Islands. Fiji is a natural laboratory for investigating differential cultural behaviours because of its two culturally distinct ethnic groups. An in-depth examination of their utterly different cultural behaviours showed that these behaviours served different cultural intentions within each culture reflecting their particular sociocultural values.

An anthropological Grounded Theory methodology was used to develop a three-construct grounded model of different values, which emerged from observations, and analyses of these different cultural behaviours. These constructs were then de-constructed to define and explain a target construct of their Differential Teaching behaviours, which were contributing to the different academic attainments of the two cultures.

This four-construct explanatory model emerged from in-depth ethnographic research aimed at explaining observed differences in teaching/learning behaviours, which contributed to the different English examination results of the two ethnic groups. The research focused on those

behaviours whose prevalence differentiated between the two cultures. It then identified differently valued emic cultural intentions served by these behaviours. Emic intentions that were similar formed six main etic themes, which, in pairs, formed three higher order etic cultural constructs of consistent behaviours, intentions, and themes. These three resulting cultural constructs were *Event Horizon (EH)*, *Social Unit of Resource (SURA)*, and the *Degree of Autonomy (DoA)* each one being naturally composed of thematically-categorised community and teaching behaviours.

Each construct was then deconstructed by separating its community behaviours from its teaching behaviours. The differential teaching behaviours that were contributing to the different attainments defined the target construct of *Differential Teaching*. The remaining community behaviours defined the three explanatory constructs of EH, SURA and DoA.

The theoretical significance of this four-construct explanatory model is that it has been framed in terms of etic constructs and emic values so that the data could empirically test the model in the Fiji context whilst the model itself would be generalisable to other multi-cultural contexts. The indicative behaviours in each theme are particular to the Fiji context but the constructs are meta-concepts, which can be used to investigate similar multicultural educational contexts. The validity of the explanatory model has been ascertained quantitatively by census of Fiji's secondary schools.

The educational significance of the model is its use as a predictor of culturally determined behaviours, namely teaching behaviours and their expected educational outcomes. The model can be applied to other culturally or socially diverse contexts to explain differential attainments by identifying the different cultural behaviours and values inherent to constituent ethnic or social groups. The model can be used by education policy-makers when devising policies aimed at maximising educational attainments for all sociocultural groups.

Introduction

This paper presents an explanatory model of culturally preferred teaching behaviours that emerged from a four-year ethnographic study in the Fiji islands in the South Pacific. Demographically, Fiji is a natural laboratory for investigating differential cultural behaviours because of its extremely culturally dissimilar bi-ethnic population: the indigenous Fijians and the Indo-Fijians. An investigation of the cultural polarisation of Fiji's two ethnic groups and its associated effects on educational outcomes has given rise to the explanatory cultural model of teaching behaviours which is described here.

Construction of Cultural Values that Highlight Differential Cultural Preferences

A Grounded Theory Investigation of Bi-ethnic Educational Settings in the Fiji Islands This study has used an anthropological Grounded Theory (GT) methodology (Strauss, 1987; Strauss & Corbin, 1990, 1994) to investigate the widely divergent cultural behaviours of native Fijian and Indian teachers. The study examined the different educational behaviours that they each chose when operationalising a common English as a Second Language (ESL) syllabus prescribed by the Fiji Ministry of Education at Form III (grade 9) and Form IV levels (grade 10).

This GT methodological research process allowed the iterative accretion of meta-concepts describing cultural dissimilarities as they arose from the data. These meta-concepts were associated with marked dissimilarities in teachers' and students' educational practices and expectations of English teaching and learning. Thus, the development of the ethnographic study was data-driven and on-going analysis of ethnographic data guided subsequent ethnographic data collection. In the initial ahistorical exploratory study, informants voiced the considerable national concern caused by the differential academic attainments of the Fijians and Indio-Fijians. It is my interest in cultural differences and my expertise in linguistics and language teaching which prompted me to explicate how differences between the two ethnic groups were associated with their differential attainments as represented in English at Form IV in the Fiji Junior Certificate examination. For this purpose, initial schools were chosen for participant observation on the recommendation of key informants as representing the greatest variety of cultural dissimilarities. These schools, being the most culturally Fijian and the most culturally Indian, exhibited culturally specific traits that may otherwise have been unnoticed. After three weeks I began, concurrently with my observations, extensive exploration of primary archival colonial documents and research interviews with government officials, Ministry of Education staff, primary and secondary school principals, teachers and community informants. These explorations informed the marked dissimilarities between the social structures and cultural values of the two ethnic groups.

The GT ethnographic data collection was carried out in four overlapping research phases over the next three years. These consisted of two phases for rural data collection (R) and two phases for urban data collection (U) in the sequence R1, U1, R2, U2. Each phase of data collection and analysis informed the focus of the next research phase.

The first Rural phase, R1, took place in five Fijian and four Indian schools, nine secondary schools in all. R2 involved validations in two of the same Fijian schools and two of the same Indian schools visited in R1 and ethnographic tests of generalisation extended to another three Fijian secondary schools and another four Indian schools, that is three secondary schools and one Senior High School. The urban phases were conducted in secondary schools in Suva, the capital of Fiji. U1 involved two Fijian and two Indian schools. U2 was designed in parallel with R2 in that validations were carried out in the same four schools and ethnographic tests of generalisation extended to another two Fijian schools and another two Indian schools. In total, twelve rural and eight urban secondary schools were included in this data set.

The ethnographic data collection procedures included primarily qualitative interviewing (Rubin & Rubin, 1995; Scheurich, 1995) and extensive observations of classroom teaching. The intentions served by the observed behaviours surfaced as recurrent themes and were then further explored. This exploration led to the identification of socio-educational behaviours, and their matching cultural intentions, which the two ethnic groups exhibited to significantly different degrees. These were evidenced by noting discrepant degrees of behaviour between the two groups in teachers' pedagogical practices, and in their students' corresponding learning behaviours and the different cultural intentions these behaviours were expected to serve.

As the study progressed, it increasingly focused on these differential behaviours indicative of emergent themes that were to eventually conceptualise the three explanatory cultural constructs.

These differences were pre-eminently associated with cultural and religious expectations and they were found to permeate many aspects of English teaching embedded in the teachers' differential interpretations of the MOE Form III and Form IV ESL prescription. Eventually, over three stages of increasingly focused research, three major explanatory meta-concepts emerged from the data.

Three-stage Research Development of a GT Differential Construct Methodology The methodology based on the GT paradigm was developed in three stages of increasingly focused research: stage 1 initial exploratory ethnography, stage 2 description and verification of the differential themes and stage 3 empirical generalisation of the differential themes.

The objectives of the study arose in stage 1. The stage 1 ethnographic exploration uncovered the major social and political concern about differential educational attainments between indigenous Fijians (low attainments) and Indo-Fijians (high attainments) and it was this concern that guided the research. This concern was considerable and has contributed to military coups d'état both before and after the study.

The main objectives of stages 2 and 3 were threefold. The first objective was to describe the groups' differential sociocultural expectations of English teaching, namely by matching English teaching behaviours to sociocultural intentions.

The second objective was to examine the differences in interpretation of the English curriculum, namely by identifying those teaching behaviours open to both groups whose observed prevalence distinguished between the two ethnic groups. The third objective was to test the validity of their different sociocultural expectations of English teaching as a possible explanation of the differences in their curriculum interpretations leading to the worrying differential attainments in English, namely by verifying the links between behaviours, attainments and cultural values. This explanatory model was derived from qualitative analysis that maintained etic and emic distinctions in order to ensure its applicability to similar multicultural educational contexts.

Stage 3 of the study assessed the validity of the model both qualitatively using ethnography and quantitatively using census data. The census of Fiji's 143 secondary schools was conducted at the end of the study to statistically test the generalisability of the qualitatively derived model to all secondary schools in Fiji. This sequential order, that is using first qualitative then quantitative methods, was determined solely by the information that was needed and this need emerged from the ethnographic study. The quantitative methods were not chosen independently of the original ethnography, but were subservient to its needs, hence no new cultural implications were incurred by the symbiotic use of these quantitative methods.

This GT research paradigm has used a differential construct methodology, which has led to the emergence of the three cultural construct explanatory model of cultural behaviours.

The Emergence of the Three-differential Construct Model of Cultural Values This investigation has led to the emergence of a three-construct model of cultural values. The model emerged from these ethnographic observations and analyses of differential Fijian and Indian community and teaching behaviours and the cultural intentions they served. The emergent model

was designed to conceptualise how these two contrasting cultures operationalised a common ESL curriculum and how their different operationalisations resulted in different educational attainments in ESL.

The three cultural constructs that described this process were identified as: *Event Horizon (EH)*, *Social Unit of Resource Allocation (SURA)* and *Degree of Autonomy (DoA)*. These three constructs were empirically described by consistent cultural behaviours that most distinguished between the two cultures and their corresponding emic cultural intentions. These cultural intentions comprised themes that structured each construct defined by semiotic analysis (Abrams, 1993; Feldman, 1995; Lévi-Strauss, 1958; Saussure, 1959) that maximised the consistency of the behavioural indicators of these cultural intentions within each culture. The behavioural indicators were thus used as signs for the cultural intentions. The methodology of semiotic analysis of behaviours as signs was designed to minimise etic intrusions in the analysis of emic behaviours. The most distinguishing behaviours, and the intentions they served, comprised six themes, and some sub-themes, which defined in pairs the three differential cultural constructs identified as EH, SURA and DoA.

This structure of the three cultural constructs is illustrated in Figure 1. Each cultural construct is made up of two themes each comprising community and teaching behaviours. The EH construct was structured by the two cultural themes of *Detailed future planning* and *Delayed reward*. The SURA construct was structured by *Emphasis on personal relationships* and *Structure of the social units*. The DoA construct was structured by *Acquiescence to authority* and *Personal responsibility with accountability*. Each theme was described by a consistent set of differential cultural behaviours indicative of the theme. The behaviours that define each theme were chosen because they significantly distinguished between the Fijians and the Indians. Figure 1 shows examples of differential behaviours for each theme.

Three Grounded Cultural Constructs that distinguish between Fijian and Indian cultures

EVENT HORIZON
EH

COMMUNITY BEHAVIOURS

• *Preference for English over vernacular for job advantage 24, 25*

TEACHING BEHAVIOURS

• *Preference for money-earning school subjects 14, 15*

Detailed Future Planning

COMMUNITY BEHAVIOURS

• *Savings 30*

SOCIAL UNIT OF RESOURCE ALLOCATION
SURA

COMMUNITY BEHAVIOURS

• *Satisfaction from staff relationships v recognition for one's knowledge 74, 75*

TEACHING BEHAVIOURS

• *'Joking' v authoritarian relationships 91, 92*

Emphasis on Personal Relationships

COMMUNITY BEHAVIOURS

• *Restriction v diffusion of social boundaries 43*

DEGREE OF AUTONOMY
DoA

COMMUNITY BEHAVIOURS

• *Religious strictness 22*

TEACHING BEHAVIOURS

• *Strength of discipline supporting school rules 119-126*

Acquiescence to authority

COMMUNITY BEHAVIOURS

• *Determining the use of one's income 33*

The values of each cultural group can thus be represented by profiles of different emphases on these constructs. For example, compared to Indians, Fijians have lower EH (e.g., seek immediate gratification), have a larger SURA (e.g., are part of the clan or 'mataqali'), and have a higher DoA (e.g., have more latitude in school attendance). By contrast, Indians have a high EH (e.g., plan for a distant future), have a smaller SURA (e.g., marry off daughters), and have a lower DoA (e.g., are more inclined to follow the rules).
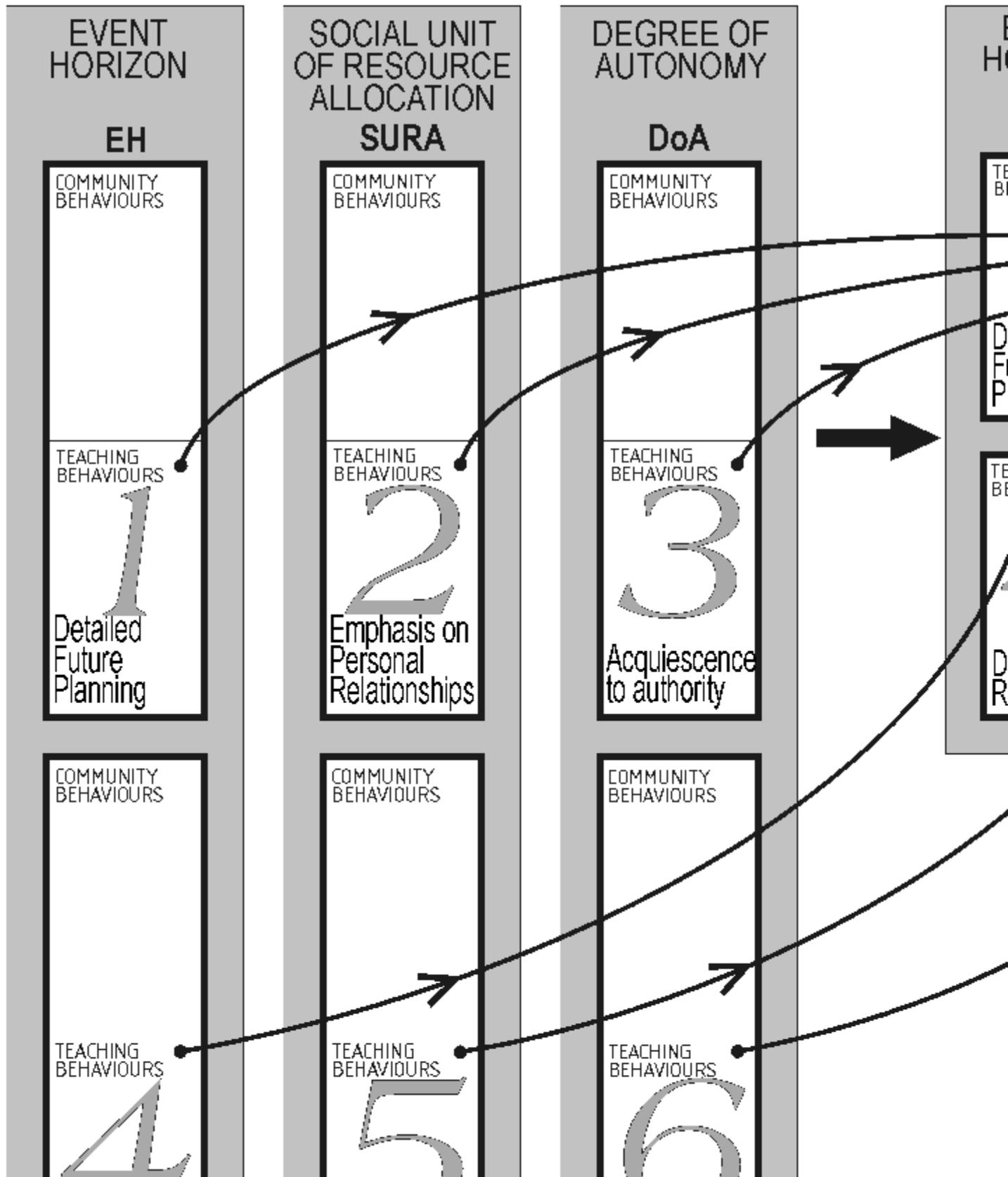
De-constructing Cultural Values to Explain Differential Teaching Behaviours

A structural analysis of the three differential cultural constructs was then used to develop the explanatory cultural model of preferred teaching behaviours. This deconstruction and reconstruction process is illustrated in Figure 2.

Structural analysis for the development of The Conceptual Fra...

EXPLANATORY GROUNDED CULTURAL CONSTRUCTS
Of Community Behaviours

EXPLAIN   TAR...

EVENT HORIZON

EH

COMMUNITY BEHAVIOURS

TEACHING BEHAVIOURS

1

Detailed Future Planning

COMMUNITY BEHAVIOURS

TEACHING BEHAVIOURS

4

SOCIAL UNIT OF RESOURCE ALLOCATION

SURA

COMMUNITY BEHAVIOURS

TEACHING BEHAVIOURS

2

Emphasis on Personal Relationships

COMMUNITY BEHAVIOURS

TEACHING BEHAVIOURS

5

DEGREE OF AUTONOMY

DoA

COMMUNITY BEHAVIOURS

TEACHING BEHAVIOURS

3

Acquiescence to authority

COMMUNITY BEHAVIOURS

TEACHING BEHAVIOURS

6

E... HO...

TE... BE...

D... Fr... P...

TE... BE...

D... R...

First, the three cultural constructs were deconstructed by partitioning the behaviours in each theme into community behaviours and teaching behaviours. Secondly, teaching behaviours were reconstructed within the same intentions they served, to define the target construct of Differential English Teaching. At the same time, the remaining community behaviours were reconstructed, within the same intentions, they served, to form three explanatory community constructs corresponding to the original EH, SURA and DoA. Hence, because of their retained isomorphic structures, the community cultural constructs must explain the teaching cultural construct of preferred teaching behaviours, that is, they serve the same cultural intentions within the same cultural themes.

Structural Analysis for Defining the Target Construct of Differential Teaching The target construct of Differential Teaching was achieved by separating the different teaching behaviours from community behaviours that were in the six themes, as shown in Figure 2. For example, the amount of money teachers spent on education policies was an EH cultural behaviour pertaining to the theme of 'Delayed reward' and 'Detailed future planning', with the sub-theme of 'saving' (Boufoy-Bastick, 1997, 2001). These two themes could be grouped under the EH concept of 'Delayed reward' which was also reflected by 'Homework' behaviours which were Reward-delaying teaching behaviours. Teachers who expected that students would forego immediate gratification expected students to do homework rather than to play; that is, they expected students to be self-disciplined and to do the homework to ensure their educational success. The behaviours of 'foregoing immediate gratification' are 'Delayed reward' behaviours linked to 'saving' through the sub-theme of 'education equals wealth'.

So, the explanatory model was achieved by partitioning the differential teaching behaviours and community behaviours that were in each of the six themes and using the teaching behaviours, structured by the same cultural themes, to create the fourth construct of Differential English Teaching. Hence, all the themes defining each of the three constructs appear in the differential construct of teaching behaviours.

The deconstruction and reconstruction of the cultural constructs shows how cultural values determine educational attainments. The fact that the behaviours and cultural intentions were chosen because they most differentiated between the groups, and that the preferred teaching behaviours were also contributing to their differential academic attainments, argues that different profiles of community cultural constructs can predict differential academic attainments.

Using the Explanatory Model of Teaching Behaviours to Predict Educational Outcomes
"The test of validity of the qualitatively 'grounded' theory is its predictive power" (Erickson, 1981, p. 19). It is the maintenance of such generalisability that guided the development of this model. The model explained how differential teaching behaviours are predicted by the community cultural constructs. This is because the behaviours that define the teaching construct are categorised by the same themes and constructs that were defined by the cultural behaviours. Therefore, culture defines the differential teaching behaviours that lead to varied educational attainments across culture.

The empirical validity of this qualitatively derived explanatory model has been ascertained quantitatively by analyses of sample data from a census of Fiji's secondary schools. Canonical

correlation predicted culturally preferred teaching behaviours from the community cultural constructs, defined by 36 behaviours, with a significance of p<0.0001 (n = 45, r = 0.96). The model has allowed an explanation of the differential educational attainments of Fijians and Indians. It showed that the sociocultural values of the Indo-Fijians are more aligned with those promoting high attainment in Fiji's formal education system (Kishor, 1981; Ravuvu, 1987; Stewart, 1984; van der Staay, 1997).

This explanatory model of differential academic attainments is generalisable to similar cultural contexts under formal education systems; that is, the same cultural intentions leading to these differential attainments would explain differential educational outcomes in other formal systems. Values that result in optimal attainment in different formal education systems may be described in terms of varying emphases on these three community cultural constructs. What has been shown is that a cultural group whose profile of community cultural values approximates the optimal for their formal education system will perform optimally in that system.

It is important, however, to note that specific behaviours are only a contextual expression of generalisable cultural values that predict attainment in formal education systems. Thus, a model based on behaviours may be empirically verified in its context but may not be generalisable to contexts where those behaviours may not be available. It is the cultural intentions, underlying attainments in formal education systems as described by the model that are generalisable. The particular observed behaviours that validated the model were specific to the Fijian context; being those that were available to the groups in Fiji. In different cultural contexts, however, other behaviours may be available to serve these same values.

In sum, the theoretical significance of the four-construct explanatory model is that it has been framed in terms of etic constructs (through rigorous in-depth interpretive analysis) and emic values (by semiotic sign consistency) so that the data could test the empirical validity of the model in the Fiji context whilst the model itself would be generalisable to other multi-cultural contexts (Coffey & Atkinson, 1996, p. 117; Phillips, 1987, p. 12). The indicative behaviours in each cultural theme of intentions are particular to the Fiji context but the constructs are meta-concepts that can be used to investigate similar multicultural educational contexts.

Conclusion

This paper has presented an explanatory model of culturally preferred behaviours for explaining differential attainments in education. The model explains how sociocultural values significantly define culturally preferred teaching practices that result in differential attainments. The model can be used to predict educational attainments in similar multicultural contexts.

The educational significance of the model is its potential use as a predictor of culturally determined behaviours, namely of teaching behaviours and their expected educational outcomes. The model can possibly be generalised to other culturally or socially diverse contexts to explain differential attainments by identifying the similarity of cultural values inherent to each ethnic or social group and comparing them to the values that maximise academic attainment in their shared formal education system. Education policy-makers can use the model when devising

policies aimed at maximising educational attainments for all sociocultural groups within multi-cultural societies served by a shared formal education system.

The paper suggests that for high attainments a group's social profile should match the cultural expectations of their formal education system. As globalisation is forcing equivalence of attainments, it also standardises the cultural expectations of formal education systems, thus standardising cultural profiles of different groups. This raises the question of acceptable variation in the cultural values of formal education under the pressure of globalisation.

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Author Note

[+]*Béatrice Boufoy-Bastick* is a linguist and she researches on second language teaching methodology and the influence of culture on education. She holds a Masters from the Sorbonne University, Paris IV, and a Doctorate from the University of the West Indies, Jamaica. She currently lectures in French at the Department of Modern Languages, University of the West Indies, Jamaica. She can be contacted at the Department of Liberal Studies, University of Technology, 237 Old Hope Rd., Kingston 6, Jamaica and her email is: bboufoybastick@yahoo.com.