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Sociocultural Imperatives of Collaborative Interactions among Malaysian Indigenous and Non-Indigenous Children in an Educational Environment

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Abstract

This paper seeks to describe the vital traits of sociocultural artifacts within collaborative social interactive patterns exhibited by indigenous and non-indigenous children in a computer environment. The case investigative method was used in one pre-primary centre in metropolitan Perth, Western Australia, to examine the patterns of collaboration among young children whilst working with computers. To assess the children's current social skills and computer competence, and their general social interaction with peers, the researcher interviewed the children and their teacher through a semi-structured interview, to guide the discussion. Both observational comments, descriptions and data analyses were presented with anecdotes. 243 interactions were identified and classified into 16 interaction patterns. The frequency of occurrence of identified interactions was analysed in the form of descriptive statistics. Factors facilitating the collaborative interaction of children whilst engaged in computer activities were found to be related to the sociological imperatives of the immediate contexts of the social interactions involved. Associated with the main findings were three major variables: (1) The classroom teacher variable (philosophy and educational beliefs, task-structure and computer management); (2) the software variable (sociocultural appropriateness, developmentally appropriateness, content, design, and programmed task-structure); and (3) the child variable (computer competency and attitude towards computer, social goals, social skills, and personal relationship with collaborators). By identifying the imperatives of sociocultural traits of collaborative social interactions of children, and factors that may facilitate or inhibit these interactions, sociologists, social anthropologists, educationists, linguists, and early childhood educators will be in a better position to integrate the computer into their classroom and to promote positive sociocultural-appropriate prosocial interaction among indigenous and non-indigenous children whilst engaged at the computer.

Keywords: Sociocultural imperatives, collaborative interactions, indigenous children, non-indigenous children, educational computer environment.

Introduction

In the context of the changing nature and texture of early childhood settings into culturally diverse environments, educators need to be sensitive and knowledgeable about cultural diversity and specifics of cultural

traditions and attitudes that may affect learning (McCallum and Demie, 2001; Reid and Percell, 2004). Jamrozik, Boland and Urquhart (1995) argues that lack of cultural sensitivity of early childhood, can affect the implementation of the education programs as well. Gonzalez-Mena (1997) extends the argument by stating that it might result in a communication gap between parents and educators or conflicts over child rearing patterns and lowered parental participation. Moreover, Ramsey (1991) believes that when teachers lack a clear understanding about cultural behaviours and when one's behavioural responses do not match with the other person's cultural norms, misinterpretation of cues and eventually misunderstandings and communication gaps can occur. Therefore, the sociocultural perspective of the current study seeks to impart education from the perspective of enhancing children's capabilities as well as creating a collaborative and reciprocal relationship between home and school, whereby teachers and administrators need to understand and appreciate the cultural values associated with development and education of children from culturally diverse backgrounds (Larke, 1990; Rohaty Mohd Majzub, Salasiah Hashim, H.S. Elis Johannes, 2011). Furthermore, the outcomes of the current study perhaps, could provide early childhood educators with information regarding the types of discourse involved in collaborative interactions that develop between young indigenous children when engaged with educational computer programs.

Information about these discourses may assist educators to make informed judgments on the learning benefits and potential of educational computer software packages, and their suitability and potential to foster positive collaborative behaviour among young rural indigenous children (Rohaty Mohd Majzub, Salasiah Hashim, H.S. Elis Johannes, 2011). Also, information pertaining to the patterns of collaborative interaction occurring between these children whilst engaged in educational computer programs will assist in providing guidelines for the development of children's educational software, particularly in a specific culturally appropriate (Jamrozik, Boland and Urquhart, 1995), and culturally sensitive environment (Percell, 2004). It is important to ensure that future educational computer software packages are structured and developed so as to best maximise young children's collaborative behaviour, so they may scaffold one another's learning, where it has been cited that collaborative interaction may benefit young indigenous children in most educational settings.

Appropriate computer use may provide unique opportunities for scaffolding and supporting children with special learning needs, or children from culturally or linguistically diverse backgrounds (Plowman and Stephen, 2005). Good software can allow children to engage in self-exploration and tailor the software to their individual needs in a way that traditional print-based material cannot necessarily match (Bolstad, 2004). For example, Castellani and Tsantis (2002) researched the way teachers used software in an English as a Second and Other Language (ESOL) summer school learning programme for 5–12-years-olds in the United States of America. The software offered opportunities to explore basic concepts such as colour, numbers, and shapes in children's native language, as well as offering the English language equivalent of these concepts, thereby providing teachers with opportunities to structure the learning environment in culturally inclusive ways. Brooker and Siraj-Blatchford (2002) studied the experiences of 3 and 4-year old children using a computer at an ethnically and linguistically mixed urban nursery school. They described computer use by bilingual children as "especially valuable." Visual cues and animation embedded in the programs prompted ESOL children to use English words to talk about what they were doing. The researchers regularly noted instances of language learning, and children repeating words and phrases in response to computer-spoken prompts.

Given this positive assessment of the computer's potential, Whalley et al. (2001) argued that computers can also be used as a way of bringing children's home culture and experiences into the early childhood education centre. Whalley et al. (2001) described a United Kingdom early childhood centre where parents were able to borrow the centre's video camera to film children's experiences in the home. These could then be viewed and

discussed between parents and early childhood educators, as a way of supporting parents' involvement in their children's learning.

Proposed study on cognition as a collaborative process

The following section is the explanation of the first of two models which present the analytical approach of a proposed study on implicit social cognition and social interaction of indigenous Orang Asli children in Malaysia. Each section focused on the analytic tools and assumption systems which were addressed by Rogoff and Angelillo (2002) and Rogoff (1998, 2003). Importantly to the nature of analysis of the current study, Rogoff and Angelillo (2002) argues that cultural analyses which focuses on coordinated, multifaceted practices may provide a better understanding of human development in the context of people's participation in pervasive cultural institutions such as schooling and societal changes such as industrialization. The authors further their arguments by stating that ".. researchers need to consider cultural processes as dynamically integrated constellations of cultural practices-even (or especially) when analyses may be served by identifying some aspects as 'variables' " (2002, p. 213). The analytic tool of the first model of the proposed study is premised on the notion that sociocultural approach may lead to a further understanding of the assumption on cognition as a collaborative process (Rogoff, 1998).

In the study of cognition as a collaborative process, central themes to Rogoff's theoretical, research and methodological approach are stated as:

> ".. goes beyond regarding the individual as a separate entity that is the base unit of analysis to examine sociocultural activity as the unit of analysis, with examination of the contributions of individual, interpersonal, and community processes. Thus, analysis goes beyond the individual and the dyad to examine the structured relations among people in groups and in communities, across time"
>
> (1998, p. 729)

Rogoff (1998) further postulate that the analytical approach needs to emphasise the purposes and dynamically changing nature of events. She believes that the focus of examination is grounded in the notion that the analysis of cognition as a collaborative process need to examine the changing and meaningful constellations of aspects of events, not variables that attempt to be independent of the purpose of the activity (1998). Also central to the analysis is that:

> " ... cognition as a collaborative process is a focus on shared meaning in endeavours in which people engage in common. Cognition is not conceptualized as separate from social, motivational, emotional, and identity processes-people's thinking and development is conceived as involved in social relations, with purpose and feeling central to their involvement in activities, and transformation of their roles as a function to participation"
>
> (Rogoff 1998: 729)

Thus, significantly important for the proposed study, the employment of categories like ethnicity, socio-economic backgrounds and peer relationships are seen as helpful efforts to understand the cultural processes of the Malaysian Orang Asli contexts, in which to be interpreted from the perspective that they are historically and culturally situated concepts that fit a certain time and place, and not to be regarded as freestanding measures of the phenomena under study, which is the patterns of social interactions in a pre-determined ethnic environment. Therefore, it is acknowledge that the basis of the first analytical model of

the current study is partially premised on the functional pattern analysis, as suggested by Rogoff and Gauvain (1989), which were applied in the study of Rogoff, Minstry, Goncu and Mosier (1993). According to Rogoff, et al. (1998), functional pattern analysis examines generalities or patterns in a variety of similar cases (for example, individuals, dyads, events) while attempting to maintain the meaning of individual actions in their (see Mehan, 1979; Wellman and Sim, 1990, as cited in Rogoff, Minstry, Goncu and Mosier, 1993). The summaries of the analyses are as follows (Rogoff, Minstry, Goncu and Mosier, 1993):

1. The focus of functional pattern analysis is to unfold development of purposive acts within ongoing events. In relation to the categories involved, in which are functionally defined, the purposes of the event are viewed as a whole, and no steps are taken to define any superficial behaviours independently and separated from their context.
2. The nature of examinations involves the contributions of participants in the context of those of other individuals, in which the evidence for constructing an account of participants' goals is available in the communication of participants.
3. Statistical methods are employed to analyse existing patterns, and employment of the examination of graphical arrays that allow tracking across multiple variables to examine patters of interrelations and to account for anomalous or similar cases.

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