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A study of 21 human specific autosomal DNA markers among tribal populations of Northeast India and their possible evolutionary consequences

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Abstract

Introduction: The peopling of India has been derived from past studies on genetic diversities and affinities among ethnic groups of India (Majumder et al, 1999). Manipur is one of the eight (corrected from seven) states of North-east India, lies on the ancient silk route and serves as a meeting point between the Southeast Asia and South Asia (Metei et al., 2010). **Aim:** The aim of this study is to examine the genetic structure and gene differentiation of three Tibeto-Burman linguistic groups and see the shed light on the peopling of India as well as their genetic affinities with other populations in East Asia on human evolution.

Methodology: Twenty one autosomal polymorphism markers (*Alu* Indels and Restriction Fragment Length Polymorphisms) were analyzed among three tribal population of North-East India. Allele frequencies were calculated from each locus separately for each population. The overall average heterozygosity and the heterozygosities of each locus were calculated by using the estimated allele frequencies for each population. Statement of Hardy-Weinberg equilibrium was tested using the chi-square goodness –of-fit, with Bonferroni’s correction for multiple comparisons. Gene differentiation among the study population was calculated by using Nei’s (1973) for each locus and for all loci. Maximum likelihood estimates of the haplotype frequencies were calculated for the multisite marker typing data, using the program HAPLOFREQ (Majumder and Majumder, 2000).

Result and Conclusion: All the 21 loci were polymorphic and the average heterozygosities were range from 0.387% to 415%. Gene diversity of the three study populations revealed a high level of heterozygosity ($H_T = 0.4084\%$). The differentiation of gene diversity was not that much high ($G_{ST} = 0.37\%$) which show a close relationship of ancestral migration. According to phylogenetic analysis of these data with the published data from 34 worldwide human populations shows that there is a close genetic affinity among all the Southeast Asian and East Asian population. The similarity of genetic structure seen among the Northeastern India with Southeast Asian and reflect a close relationship between these group which explain the history of migration. It supports the hypothesis based on the findings of archeological and linguistic, that the Northeastern populations of India have close genetic affinity with Southeast Asian and East Asian populations and it suggests the role of North-East India border as a barrier rather than a corridor.

Keywords: Ancestral migration, autosomal polymorphic marker, gene diversity, archeological, and linguistic.

Introduction

Considerable insight into the peopling of India has been derived from past studies on genetic diversities and affinities among ethnic groups of India (Majumder et al, 1999). Contemporary ethnic populations of India are highly variable, both biologically and culturally (Majumder, 1998). Indian populations have a division of tribal and non-tribal groups. Tribal populations constitute 8.2% (Census of India 2001) of the total population and considered to be the indigenous population of India (Fuchs 1964; Thapar 1966; Ray 1973). The definition of tribe is somewhat ambiguous, but generally refers to the endogamous populations that are considered aboriginal, inhabiting the Indian subcontinent before the immigration of pastoral nomads from central Asia some 3,500 years ago (Cavalli-Sforza et al. 1994). The tribal groups of India belong to one of the four broad linguistic families: Austro-Asiatic, Dravidian, Indo-European and Tibeto-Burman (Majumder 1998). The origins and migrational histories of the tribal populations of Indian subcontinent are not clearly understood (Vishwanathan et al. 2003). The immigrations have been through the north, northwest, western littoral, and north and northeastern parts of India. People described northwest as a corridor for prehistoric human migrations and historic human invasions (Saraswathy et al. 2009). A debate persists regarding whether Northeast India was a Corridor (Reddy et al. 2007) or a barrier (Corduax et al. 2004) for human migrations. The tribal groups of Northeastern India speak languages belonging to the Tibeto-Burman linguistic family except the Khasi tribal group.

The study was based on blood group and red cell enzyme polymorphism. The levels of polymorphism at loci that code for expressed proteins and enzymes are generally low because mutations at these loci are commonly deleterious and, therefore, are often strongly selected against (Majumder et al. 1999). DNA polymorphism markers have immensely proved in the studies of human genetic diversity and evolution. In recent years, several insertion/deletion polymorphisms have been discovered in the human genomes which are particularly useful in human population genetic studies (Majumder et al. 1999).

We have studied twenty one autosomal markers in three tribal groups of Northeast India. The study sampling location, population sizes and anthropological information are listed in Table 1. These three studied groups belong to Tibeto-Burman linguistic groups of India. The populations are at same levels of modernization and socio-cultural hierarchy. The objective of the study was to shed light on the peopling of India and on human evolution.

Table 1. Study populations, sampling location and number of samples (*N*)

Name of Population	Sampling location	Number of Samples (<i>N</i>)
Zeme	Tamenglong district	101
Liangmai	Tamenglong district	77
Rongmei	Tamenglong and Imphal west district	112

Materials and Methods

Populations studied

5ml intravenous blood samples were drawn from 290 unrelated adult with the age ranging from 18-70 years from Zeliangrong tribal groups of Manipur with prior informed written consent. The studied populations belong to Tibeto-Burman linguistic family. Twenty one autosomal *Alu* indel polymorphisms markers were analyzed among Zeliangrong tribal groups of northeast India. The necessary clearance was obtained from the Ethical committee of Department of Anthropology, University of Delhi.

Laboratory Analysis

DNA extraction was carried out by using salting-out technique (Miller et al., 1988). Each DNA sample was screened for autosomal *Alu* markers and the oligonucleotide primers and corresponding annealing temperatures are given in Table 2. The loci studied were *Alu* ACE, *Alu* APO, *Alu* D1, *Alu* PV92, *Alu* FXIIB, mt→NUC, *Alu* CD4, *Alu* PLAT, ESR, NAT, PSCR, ALB, T2, LPL, HOXB4 and the methodologies of the haplotype loci DRD2 (based on sites Taq 1 A, Taq 1B and Taq 1D) and β -globin (based on HB7, HB8 and HB9) are also described (Kidd et al.1998;Majumder et al.1999a; Jorde et al. 1995; Mukherjee et al. 2000). The protocols for these markers have been described elsewhere (Stoneking et al. 1997; Majumder et al. 1999b; Watkins et al. 2001).

Statistical Analysis

Allele frequencies were calculated from each locus separately for each population. The overall average heterozygosity and the heterozygosities of each locus were calculated by using the estimated allele frequencies for each population. Statement of Hardy-Weinberg equilibrium was tested using the chi-square goodness-of-fit, with Bonferroni's correction for multiple comparisons. Gene differentiation among the study population was calculated by using Nei's (1973) for each locus and for all loci. Maximum likelihood estimates of the haplotype frequencies were calculated for the multisite marker typing data, using the program HAPLOFREQ (Majumder and Majumder, 2000). For analysis of regression of heterozygosity on genetic distance a software Harpending and ward (1982) was used. Principal co-ordinate analysis software was used from www.cse.naro.affrc.go.jp/iwatah/others/pco/index.html.

Table 2.Oligonucleotide primers and annealing temperatures of the loci studied

Markers	Primers sequences	Annealing temperature (°C)
<i>Alu</i> ACE	5'CTG GAG ACT CCC ATC CTT TCT'3 5'GAT GTG GCC ATC ACA TTC GTC AGT T'3	65°C
<i>Alu</i> APO	5'AAG TGC TGT AGG CCA TTT AGA TTA G'3 5'AGT CTT CGA TGA CAG CGT ATA CAG A'3	50°C
<i>Alu</i> D1	5'TGC TGA TGC CCA GGG TTA GTA AA'3 5'TTT CTG CTA TGC TCT TCC CTC TC'3	66°C
<i>Alu</i> PV92	5'AAC TGG GAA AAT TTG AAG AGA AAG T'3 5'TGA GTT CTC AAC TCC TGT GTG TTA G'3	54°C
<i>Alu</i> FXIIB	5'TCA ACT CCA TGA GAT TTT CAG AAG T'3 5'CTG GAA AAA ATG TAT TCA GGT GAG T'3	63°C
mt→NUC	5'ACA AAG TCC AGG TTT CTA ACA G'3 5'AGT CTT GCT TAT TAC AAT GAT GG'3	63°C
<i>Alu</i> CD4	5'AGG CCT TGT AGG GTT GGT CTG ATA'3 5'TGC AGC TGC TGA GTG AAA GAA CTG'3	68°C
<i>Alu</i> PLAT	5'GTG AAA AGC AAG GTC TAC CAG'3 5'GAC ACC GAG TTC ATC TTG AC'3	59°C
ESR	5'CTG CCA CCC TAT CTG TAT C'3 5'CTC TGC CAC CCT GGC GTC'3	64.8°C
NAT	5'GAC ATT GAA GCA TAT TTT GAA A'3 5'GAT GAA AGT ATT TGA TGT TTA G'3	57°C
PSCR	5'GGG TTC TAA AGG GAA GAA A'3 5'CCT AAC AGA GGT CAC AAG G'3	60°C

ALB	5'GTA GGT GGA CTT GGA GAA GG'3 5'GAT ATA CTT GGC AAG GTC C'3	62 °C
T2	5'CTG CAG CTT TTT CTC TAG GG'3 5'CGT CTG CTA CAA GTT CTG GCT T'3	65 °C
LPL	5'AGG CTT CAC TCA TCC GTG CCT CC'3 5'TTA TGC TGC TTT AGA CTC TTG TC'3	62 °C
HOXB4	5'AGG ATG TGT GAG AGG CTG G'3 5'GCA CAA AAG GAG GAA GGG TC'3	62 °C
Taq I A	5'CCT TCC TGA GTG TCA TCA AC'3 5'ACG GCT CCT TGC CCT CTA G'3	60 °C
Taq I B	5'GAT GTG TAG GAA TTA GCC AGG'3 5'GAT ACC CAC TTC AGG AAG TC'3	60 °C
Taq I D	5'CCT CTG AGG CTT ACT GTC TG'3 5'AAA ACT AGG GAG GGT CAG AG'3	60 °C
HB-SITE 7	5'GAA CAG AAG TTG AGA TAG AGA'3 5'ACT CAG TGG TCT TGT GGG CT'3	58 °C
HB-SITE 8	5'TCT GCA TTT GAC TCT GTT AGC'3 5'GGA CCC TAA CTG ATA TAA CTA'3	58 °C
HB-SITE 9	5'CCT CAC CTG AGG AGT TAA TT'3 5'CTA CCA TAA TTC AGC TTT GGG AT'3	58 °C

In Table 3 the Genetic Distance matrices among the Zeliangrong tribe of Manipur on the basis of 21 autosomal loci, genetic distances were computed and examined by pair wise chi-square statistics. It can be seen that the genetic distances did not reveal significant differentiation.

Table 3. Matrices of pairwise distances among the Zeliangrong (Zeme, Liangmai and Rongmei) tribal population

	Zeme	Liangmai	Rongmei
Zeme	0		
Liangmai	0.0390	0	
Rongmei	0.0327	0.0129	0

Results

Allele frequencies, Genetic Diversity and population Differentiation

The allele frequencies for all the 21 loci in the three study populations are listed in Table 4. All the study loci in the present study were found to be polymorphic in all the populations, except *Alu* PSCR exhibits low level of polymorphisms in the three populations. The studied 21 loci revealed an average overall heterozygosity levels in all the three groups with ranging from 0.3816 in Zeme to 0.4083 in Rongmei.

Examination of heterozygosity at individual loci revealed variation between the study groups. The minimum heterozygosity level was observed low at PSCR locus in all the three groups. Maximum heterozygosity level was observed at NAT locus in Zeme with 0.9674 and the minimum at PSCR locus in Rongmei with 0.1075. The average heterozygosity (*H*) among the three populations varies from 0.3816 in Zeme to 0.4083 in Rongmei which are presented in Table 5.

Table 4. Distribution of allele frequencies for 21 autosomal markers in Zeliangrong (Zeme, Liangmai and Rongmei) tribal groups

Markers	Zeme	Liangmai	Rongmei
<i>Alu</i> ACE	0.471	0.451	0.509
<i>Alu</i> APO	0.529	0.775	0.728
<i>Alu</i> D1	0.217	0.220	0.279
<i>Alu</i> PV92	0.835	0.868	0.744
<i>Alu</i> FXIIB	0.610	0.593	0.574
mt→NUC	0.563	0.538	0.434
<i>Alu</i> CD4	0.547	0.889	0.812
<i>Alu</i> PLAT	0.835	0.356	0.555
ESR	0.511	0.468	0.627
NAT	0.949	0.936	0.964
PSCR	0.078	0.102	0.057
ALB	0.569	0.819	0.491
T2	0.441	0.419	0.359
LPL	0.614	0.597	0.679
HOXB4	0.452	0.473	0.557
<i>Taq</i> I A	0.839	0.597	0.508
<i>Taq</i> I B	0.900	0.597	0.758
<i>Taq</i> I D	0.309	0.653	0.523
HB-SITE 7	0.244	0.621	0.656
HB-SITE 8	0.352	0.464	0.394
HB-SITE 9	0.825	0.903	0.825
All loci	0.387	0.396	0.415

Table 5. Heterozygosity estimates and their Standard Errors at the studied *Alu* InDel and RFLP loci among the three study groups (Zeme, Liangmai and Rongmei)

Locus	Population group		
	Zeme	Liangmai	Rongmei
ACE	0.4983±0.5458	0.4952±0.9497	0.4998±0.3711
APO	0.2835±0.0.3527	0.3488±0.4178	0.3960±0.3024
PV92	0.2756±0.3577	0.2292±0.4634	0.3809±0.3363
FXIIB	0.4758±0.1892	0.4827±0.1852	0.4890±0.2019
mt-NUC	0.4920±0.1150	0.4971±0.9835	0.4913±0.1304
D1	0.3398±0.3431	0.3432±0.4618	0.4023±0.2908
CD4	0.4956±0.8235	0.1974±0.4667	0.3053±0.4132
PLAT	0.4702±0.1734	0.4585±0.2432	0.4940±0.8922
ESR	0.4998±0.5431	0.4980±0.7927	0.4677±0.2099
NAT	0.9676±0.3144	0.1198±0.3584	0.6755±0.3687
PSCR	0.1438±0.3357	0.1832±0.4230	0.1075±0.3249
ALB	0.4904±0.1104	0.2964±0.4162	0.4997±0.6795
T2	0.4930±0.9826	0.4868±0.1451	0.4602±0.2192
LPL	0.4740±0.1707	0.4812±0.1708	0.4366±0.2491
HOXB4	0.4954±0.1322	0.4985±0.8165	0.4935±0.1166
<i>Taq</i> 'A'	0.2701±0.3700	0.4812±0.1781	0.4998±0.5511
<i>Taq</i> 'B'	0.1800±0.3662	0.4812±1781	0.3669±0.3837
<i>Taq</i> 'D'	0.4270±0.2652	0.4531±0.2645	0.4989±0.6641

Hb-7	0.3689±0.3428	0.4707±0.2236	0.4513±0.2647
Hb-8	0.4561±0.2760	0.4974±0.1137	0.4775±0.2113
Hb-9	0.2888±0.7681	0.1751±0.4094	0.2888±0.3819
Average	0.3816±0.2866	0.3893±0.2899	0.4083±0.2713

Heterozygosity

Allele frequency± standard error

Gene diversity analysis

The estimation of gene diversity among the three study populations which revealed a high level of heterozygosity ($H_T = 0.4084$) as shown in Table 6. The population variation ($H_S = 0.3930$) inter population difference accounted for only 3.75% (G_{ST}) of the observed heterozygosity. Within the three populations the different was seen at CD4 locus (G_{ST} 11.42 %). The lowest difference was seen at FXIIB (0.08%). On the basis of 21 autosomal loci, the individual variations within the population (H_S) and 3.75% of total genetic diversity comes variation between the populations (G_{ST}).

Table 6. Gene diversity for individual loci and for all loci

Loci	H_T	H_S	G_{ST}
<i>Alu ACE</i>	0.498942	0.497785	0.002320
<i>Alu APO</i>	0.346172	0.342767	0.009838
<i>Alu PV92</i>	0.300709	0.295210	0.018287
<i>Alu FXIIB</i>	0.482949	0.482517	0.000895
<i>Alu mt→NUC</i>	0.499728	0.493487	0.012488
<i>Alu D1</i>	0.363410	0.361780	0.004485
<i>Alu CD4</i>	0.375666	0.332751	0.114237
<i>Alu PLAT</i>	0.490106	0.474237	0.032380
ESR	0.497503	0.488484	0.018129
NAT	0.095000	0.094719	0.002961
PSCR	0.143318	0.144842	0.004645
ALB	0.468055	0.428897	0.083660
T2	0.482453	0.480051	0.004978
LPL	0.466447	0.463916	0.005424
HOXB4	0.499928	0.495812	0.008233
Hb-7	0.499902	0.430325	0.139182
Hb-8	0.481311	0.477043	0.008868
Hb-9	0.253598	0.850894	0.010663
<i>TaqIA</i>	0.456192	0.417071	0.085756
<i>TaqIB</i>	0.373328	0.342685	0.082081
<i>TaqID</i>	0.499950	0.459721	0.080467
All loci	0.408422	0.393095	0.037528

G_{ST} gene differentiation, H_T total genomic diversity among sub-population

Population structure and Gene Flow

The population structure and gene flow of the present three study groups by applying Harpending and Ward (1982) model for population structure and gene flow is presented in Table 7. The average heterozygosity range from 0.3816 to 0.4024, observed not much different within the populations which signify that the study populations have received similar proportions of gene flow. According to the finding from centroid regression line of plot made between observed heterozygosities (Figure 1) show that there are neither overtly admixed nor they are isolated.

Table 7. Average Heterozygosity (H_i) and Genetic Distances from the Centroid (r_{ii}) among the Tibeto-Burman linguistic groups of Manipur based on 21 autosomal loci

Population	$r_{ii} \pm$ Standard Error	$H_i \pm$ Standard Error
Zeme	0.0399 \pm 0.0139	0.3816 \pm 0.0286
Liangmai	0.0389 \pm 0.0121	0.3892 \pm 0.0289
Rongmei	0.0404 \pm 0.0131	0.4024 \pm 0.0309

Regression analysis: $H_i = b (1-r_{ii})$ H_i plotted against $1 - r_{ii}$ through the origins has $t = 0.7778$, 6 df, $p > 0.05$. Regression coefficient through origin; $b = 0.4296 \pm 0.0117$; $H = 0.4289 \pm 0.0202$.

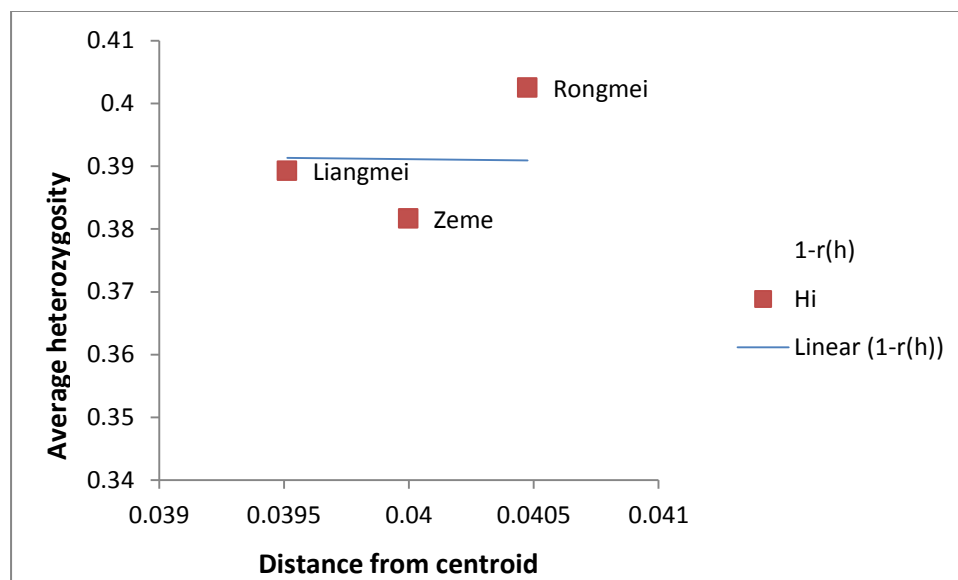


Figure 1. Regression of genetic heterozygosity (H_i) on distance from centroid (r_{ii}) among the three Tibeto-Burman speaking tribal groups of Manipur.

Haplotype frequencies

The studied groups comprised with two markers of two sets of linked RFLPs, DRD2 and β -globin, which have been used for haplotype analysis. The samples number is reduced compared with other markers analysis because all the individual data should not be missing for one or more sites.

Table 7 presents the data of haplotype frequency of DRD2 locus and β -globin. Data out of 290 total, 200 were used to analyses DRD2 locus for the present three study groups. Analysis of 3 restriction sites of DRD2 locus in order of *TaqI* 'B', *TaqI* 'D' and *TaqI* 'A' reveal that all the three study groups were not found to have all the 8 possible haplotype. Ancestral haplotype B2D2A1 was found in all the three study groups, where the frequency range from 19.25% in Rongmei and 10.11% in Zeme and Rongmei in between the two population with 13.95%.

Table 8. Haplotype frequency distribution in Zeliangrong (Zeme, Liangmai and Rongmei) tribal group

	Population group		
	Zeme	Liangmai	Rongmei
DRD2 haplotypes			
B2D2A2	0.0000 \pm 0.0000	0.3025 \pm 0.0441	0.3114 \pm 0.0564
B2D1A2	0.0000 \pm 0.0000	0.1027 \pm 0.4068	0.1695 \pm 0.0378

B1D2A2	0.0988±0.0269	0.1437±0.0379	0.0000±0.0000
B1D1A2	0.0679±0.0249	0.0640±0.0268	0.0356±0.0186
B2D2A1*	0.1011±0.0243	0.1925±0.4068	0.1395±0.0378
B2D1A1	0.0000±0.0000	0.0000±0.0000	0.1295±0.0350
B1D2A1	0.5024±0.0382	0.0155±0.0135	0.0490±0.0278
B1D1A1	0.2297±0.0377	0.1800±0.0325	0.1653±0.0398
B-globin gene cluster haplotypes			
(+ + +)	0.0872±0.0691	0.1706±0.0543	0.2038±0.0691
(+ + -)	0.2459±0.1076	0.1519±0.0559	0.2103±0.0724
(+ - -)	0.4293±0.1208	0.3158±0.0747	0.2337±0.0693
(- + +)	0.0000±0.0000	0.0161±0.0216	0.0299±0.0296
(- - -)	0.0507±0.0685	0.0645±0.0216	0.0000±0.0000
(+ - +)	0.0589±0.0594	0.2809±0.0751	0.2021±0.0597
(- + -)	0.0597±0.0425	0.0000±0.0000	0.0559±0.0339
(- - +)	0.0681±0.0502	0.0000±0.0000	0.0641±0.0362

*Ancestral haplotype frequency, '+' Presence of restriction site; '-' absence of restriction site

The haplotype frequency of β -globin data also presents in the same Table 7. Data out of 290 total, 200 were used to analyses β -globin for the present three study groups. Analysis of 3 restriction sites β -globin locus in order of Hb '7', Hb '8' and Hb '9' revealed a set of 8 haplotypes. All the 8 haplotype were not found in all the study groups. Haplotype diversity with respect to the HB marker is found lowest among the Liangmai which present only 6 haplotypes. Zeme and Rongmei present 7 haplotypes.

Discussion

Manipur is located at the northeastern part of India and they are Tibeto-Burman speaking group which have unique in its ethnic composition, with tribal and non-tribal populations. The tribal communities broadly comprise with Nagas and Kukis (Saraswathy et al. 2009). The present three study populations fall under Naga tribe of Manipur. So far few molecular works have been done on this selected study populations. Thereby, the present study attempted to find out the genetic structure and evolutionary history of these three Naga populations of Manipur through subtleties on genetic and linguistic affinities.

It is observed that present population are closer to Chinese populations than to other Indian populations, suggesting there genomic proximity to mongoloid population of Southeast Asia by exhibiting lower heterozygosity among the present populations and Chinese populations than the other reported Indian populations (Kshatriya et al.2011; Saraswathy et al. 2008; Vishwanathan et al.2003)

The distribution patterns of haplotypes with respect to HB and DRD2 among our study populations suggest similarity within populations. The ancestral haplotype among Tibeto-Burman speaking population of Manipur provided by Saraswathy et al. (2009) and the present study population reveal a similarity within them. Out of 8 haplotype four haplotypes (+ + +, + + -, + - + and + - -) are shared by all the three study populations in both HB and DRD2 markers indicates a similarity between the three groups. A high frequency of the ancestral haplotype (B2D2A1) of the DRD2 marker among the Liangmai may be attributed to its longer history than the other two groups.

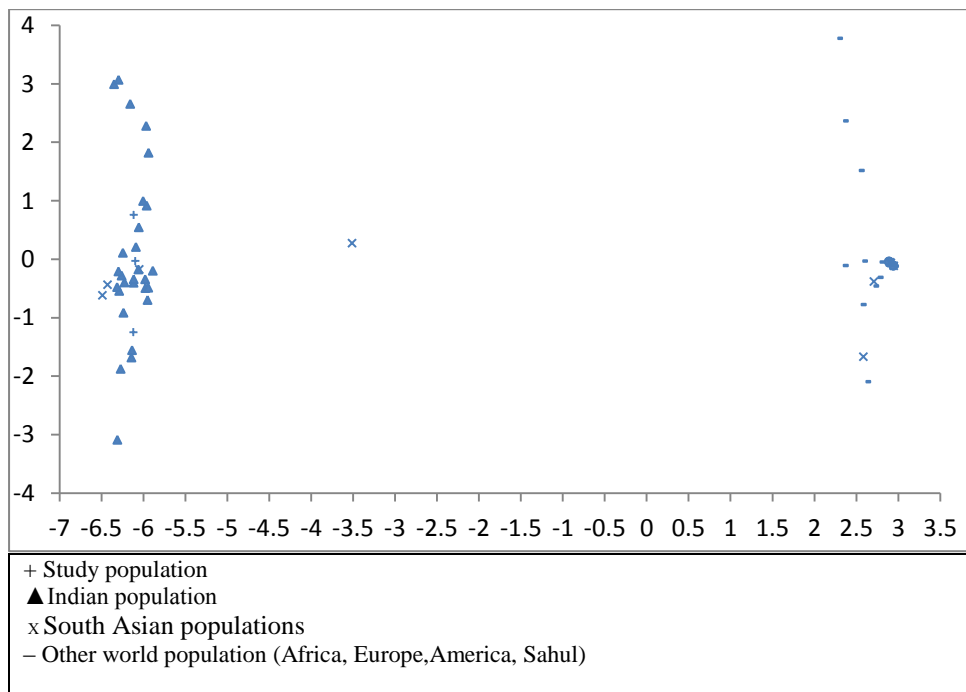


Figure 2. Principal co-ordinate analysis of Indian and World populations using 6 *Alu* markers (ACE, APO, PV92, FXIIIIB, D1 and PLAT).

PCO analysis based on six *Alu* InDel markers suggests genomic proximity of these populations to Mongoloid populations of Southeast Asia than the other world populations as shown in Fig. 2. A similar trend is observed in the published account of distribution of heterozygosity levels between the present populations and the populations of Southeast Asia (Chakrabarti et al. 2002; Kshatriya et al. 2011; Majumder et al. 1999; Meitei et al. 2010; Saraswathy et al. 2008; Saraswathy et al. 2009; Stoneking et al. 1997 and Xiao et al. 2004).

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Readers' Self-Perceptions and Reading Ability of Grade Six Pupils

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Abstract

This research was aimed at identifying the association between readers' self-perceptions and reading ability of the Grade VI pupils in MSU-IIT COOP Academy, Iligan City, S.Y. 2012-2013. The subjects of this study were the forty-one Grade Six pupils of MSU-IIT COOP Academy in school year 2013-2013. The study was a descriptive type of research utilizing two instruments: the Readers' Self-Perception Scale by Henk and Melnick (1995) and the Philippine Informal Reading Inventory (Phil IRI) 2012 edition. The findings revealed that the overall the readers' self-perception level of the grade six pupils was average while their reading ability level fell under the frustration level. Based on the findings, it is recommended that teachers must select reading materials that are appropriate to the reading needs of every pupil. Since social support is crucial to help readers continue reading, teachers must take every chance to acknowledge each child as he/she accomplishes a reading task.

Keywords: Reader's self-perception, Reading ability

Introduction

One of the key influential factors of reading ability is the learners' self-perceptions. Self-perceptions involve the readers' judgment about their ability to perform specific reading-related task. This can manifest as positive or negative judgment of one's reading skills. According to Chapman (2003), readers who have positive self-perceptions to read are more confident and capable to resolve difficulties in reading. On the contrary, students having /negative self-perceptions tend to give up more readily. They become less successful in their reading tasks and continue to encounter reading failure and problems.

Recent research has begun to evaluate the way in which children think and feel about their reading skills and the impacts that these perceptions have on reading skills. It has been shown that children perform better and are more motivated to select increasingly challenging reading tasks when they perceive that they have the ability to accomplish a particular task. The way in which children appraise their reading ability is expected to influence motivational aspects, such as interest in reading and reading persistence, which influences children's reading ability level. The term 'perceptions of reading ability' was used to refer to children's evaluations and appraisals of ability and skill in reading. The term 'reading related self-perceptions' was used to refer to children's like or dislike of reading. As others have proposed, both components were conceptualised as forming children's overall reading self-perceptions (Conlon, Zimmer-Gembeck, Creed, & Tucker, 2006).

A key aspect of academic literacy in basic education is the development of reading ability. Of particular interest and concern nowadays is the reading ability level of both elementary and high school students. Reading ability entails a complex process that involves interplay of various components such as reading speed, fluency and comprehension. A series of investigation reveals that there is a significant connection between students' reading ability and their academic success (Clark, Osborne, & Akerman, 2008). Collins et al. (2011) confirmed that students' level of reading ability is a composite factor which is perceived to influence their overall academic experiences. In an earlier study, Pretorius (2000) found that students who read a lot and who understand what they read usually attain good grades. Pressley (2000) added that frequent admonition for children to 'Read, read, read' makes sense in that extensive reading promotes fluency, vocabulary, and background knowledge.

Reading related self-perceptions are factors that contribute to the development of the reading ability of the child. This study is intended to determine the reading related self-perceptions and the reading ability of the grade six pupils. It is also hoped that the information gathered in this study would help the parents to be supportive and would help the teachers as well to utilize good practices in teaching reading to the sixth graders to enhance their self-perceptions as readers and their reading ability.

Framework of the Study

The study is anchored on the following concepts: self-perceptions of readers, reading ability, and levels of reading ability.

Crucial to the development of reading ability is the concept of self-perception of readers. According to Chapman and Tunmer (2003), reading ability is influenced by reading-related self-perceptions. It can come in two forms: positive self-perception and negative self-perception. Readers having positive self-perception love reading and enjoy reading. Thus, Purkey (2000) believes that readers have a basic human need for positive regard both from others and from

oneself. However, pessimistic attitude towards reading can be developed for readers with negative self-perceptions. They also feel less competent as readers as compared to those children who show positive reading-related self-perception. They perform at lower levels on measures of word recognition and reading comprehension. Therefore, children with negative self-perception view themselves as less competent in reading, having more difficulty with reading and liking reading less.

According to Henk and Melnick (1995), there are four basic factors of reading-related self-perceptions. These are Progress (PR), Observational Comparison (CO), Social Feedback (SF), and Physiological States (PS). The first factor is Progress (PR) that is defined as how one's perception of present reading performance compares with past performance. It has been observed that beliefs of pupils are predisposed to be more negative in various subject areas as they progressed towards middle school. Eccles (2011) also added that although these changes are not extreme for most pupils, there is sufficient evidence of gradual decline in various indicators of reading motivation, behavior, and self-perception to raise alarm.

The second factor, Observational Comparison (OC), deals with how a child perceives his or her reading performance to compare with the performance of classmates. According to Lange (2011), students make judgments about their reading ability and the reading ability of their classmates. When asked, students demonstrated that they had already formed opinions about themselves as readers and indicated who they thought were the best readers in their class.

The third factor, Social Feedback (SF), includes direct or indirect input about reading from teachers, classmates and people in the child's family. Ahmed (2010) claims that readers who perceive their parents, peers and/or teachers as supportive fare better in their reading ability than those who do not perceive their parents, teachers and peers to be supportive. He further elaborates that the presence of social support (or lack thereof) may precipitate positive or negative affective experiences (e.g. enjoyment, anxiety, anger) as well as adaptive or maladaptive self- and task related motivational beliefs (e.g. self-competence beliefs, subjective value), which in turn influence reading ability.

Finally, the Physiological States (PS) factor refers to internal feelings that the child experiences during reading. According to Self-Determination Theory (2010), a student who does feel competent in reading task is less likely to have successful reading ability. In addition, intrinsic motivation occurs when an individual engages in a reading task because it is enjoyable and satisfying in itself and because it is optimally challenging. Intrinsic motivation resides within the individual, but the environment plays an important role in supporting an individual's feelings of self-determination and motivation. However, students who perceive their teachers to be uncaring or cold are observed as less intrinsically motivated (Arnone, Reynolds, & Marshall, 2009).

The second major concept deals with reading ability. It refers to the development of the skills in word recognition and reading comprehension. The former refers to the skills used to decode a text while the latter refers to the skills used to process a text (Phil IRI, 2012). It can be further explicated according to its interrelated components, namely, word recognition, reading speed/rate, reading accuracy, reading fluency and reading comprehension.

The first factor is word recognition. Before children can begin to read they need to understand the relationship between a symbol or a combination of symbols and the sound, or sounds, they represent. The ability to sound out or decode words is an important step in reading. When children correctly sound out a word, they are able to map it to their listening and speaking vocabulary. They are able to do this without thinking about it because they have mastered the rules of phonics. Balsiger (2010) believes that reading accuracy is also associated with students'

highly automatic word recognition skills, and the skills to sound out unfamiliar words. In connection, a child who has poor reading accuracy has poor word recognition, skips words, substitutes similar-appearing words, and struggles with unfamiliar words. Nevertheless with constant practice, children begin to recognize many words automatically. The more words children recognize the easier it is for them to read. There will, however, always be unfamiliar words children must sound out. For this reason, decoding or sounding out words remains an important skill.

Another good indicator is reading fluency which is defined by Anderson (2008) as reading at an appropriate rate with adequate comprehension. When a child reads at a quick pace (an appropriate rate) without comprehending what is being read is not fluent reading. Additionally, reading very slowly and understanding everything being read (adequate comprehension) is likewise not fluent reading. The balance between the two--reading rate and comprehension--is important to fluency. According to the National Assessment of Educational Progress (2012), reading fluency is “the ease or ‘naturalness’ of reading,” including how a reader (i) groups or phrases words as revealed through intonation, stress, and pauses; (ii) adheres to the writer’s syntax; and (iii) expresses oneself in feeling, anticipation, and characterization during oral reading.

Reading fluency is important because it provides a bridge between word recognition and reading comprehension. The less fluent a reader, the more he or she must focus on decoding individual words. Less fluent readers have difficulty with oral reading, which is often slow, choppy, and without natural expression. Less fluent readers must focus their time and attention on figuring out the words, leaving little room for actually understanding the text. Since reading fluency is the key to reading comprehension, less fluent readers often fall behind in educational and professional achievement (LearningRx, 2012).

Reading comprehension is an intentional, active, interactive process that occurs before, during and after a person reads a particular piece of writing. There are two elements that make up the process of reading comprehension: vocabulary knowledge and text comprehension. In order to understand a text the reader must be able to comprehend the vocabulary used in the piece of writing. If the individual words do not make the sense then the overall story will not either. On the other hand, text comprehension is much more complex and varied than vocabulary knowledge. As maintained by K12 Readers (2012), readers use many different text comprehension strategies to develop reading comprehension. These include monitoring for understanding, answering and generating questions, summarizing and being aware of and using a text’s structure to aid comprehension.

Reading comprehension comes in four different levels with corresponding skills. These are literal, interpretive, creative and critical reading comprehension levels. Literal reading comprehension level is a lower-order comprehension which is an important prerequisite of higher-level comprehension. It involves skills such as (a) locating details through, (b) sequence—order in which events occur in a passage, (c) following directions, and (e) cause and effect relationship. Interpretive reading comprehension level is a higher-order comprehension which refers to reading between the lines or making inferences. It covers the skills of deriving ideas that are implied, not directly stated, activating background knowledge, making inferences based only on information located close together in the text, detecting author’s purpose, and drawing conclusion. Creative reading comprehension level is another higher-order comprehension. It covers specific skills, for example, solving problems, relating things readers read to their own personal problems, and using books in which different types of problems are solved. Critical reading comprehension level is highest higher-order comprehension which includes reading skills

like, evaluating the written material by comparing the ideas discovered in the material with knowledge standards and drawing conclusions about their accuracy, appropriateness, and timeliness. It also involves the reader being active, questioning, searching for facts, and suspending judgment until he or she has considered all the material (Trent, 2010).

Corollary to the first concept are the different kinds of reading ability levels as stipulated in Philippine Informal Reading Inventory (Phil IRI, 2012). The Philippine Informal Reading Inventory (IRI) is one of the most useful classroom tools in assessing a pupil's reading ability.

Thus, the IRI provides the teachers with a comprehensive profile of their pupils' ability in reading. There are three different levels of reading ability based on the Phil-IRI. Frustration level is the lowest reading level. The pupil scores 74% & below in comprehension and word recognition. Instructional level is the second reading level. The pupil scores 75-89% in comprehension and word recognition. Independent level is the highest reading level. The pupil scores 90-100% in comprehension and word recognition.

Applying these concepts to the proposed study, the variables under study are illustrated in Figure 1. The first box contains the readers' self-perceptions while the other box shows the indicators of reading ability of grade six pupils while box. Connecting the two boxes with a line led the researcher in investigating the relationship of the readers' self-perceptions and reading ability of grade six pupils.

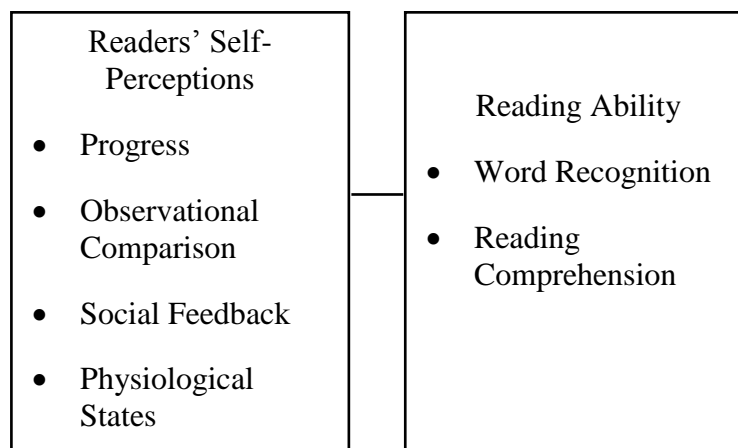


Figure 1. Schematic Diagram of the study showing the Interplay between the Readers' Self-Perceptions and Reading Ability

Statement of the Problem

The main purpose of this study was to ascertain readers' self-perceptions and reading ability of the Grade VI Mendeleev pupils of MSU-IIT COOP Academy, specifically, it sought to answer the following questions:

1. What is the level of readers' self-perception of grade six pupils in the following categories
 - 1.1. Progress,
 - 1.2. Observational Comparison,
 - 1.3. Social Feedback, and
 - 1.4. Physiological States?
2. What is the reading ability of grade six pupils in terms of :
 - 2.1. Word Recognition, and
 - 2.2. Reading Comprehension?

Methodology

This section presents the methods which were used in data gathering. This section includes the subject of the study, research instrument, data gathering procedure, and statistical tool used in the treatment of data. It described the reading-related self-perception and reading ability of the sixth graders through the data obtained through a test and a questionnaire.

Participants

The participants of the study were the officially enrolled Grade VI Section Mendeleev pupils of MSU-IIT COOP Academy. They were the advisory class of the researcher, S.Y. 2011-2012.

Instruments

Adapted from the instrument of Henk and Melnick (1995), the Reader Self-Perception Scale (RSPS) was developed in response to calls in the professional literature for self-evaluation instruments that measure the way readers appraise themselves. For every number, the statement was worded simply and positively to reveal clear response from the respondents. The instrument contained 33 items – 1 general item and 32 succeeding items integrating the four sub-scales: Progress (PR), Observational Comparison (OC), Social Feedback (SF), and 54

Another instrument used was the Philippine Informal Reading Inventory (Phil IRI) Oral Reading 2012 edition. It consisted of two parts. The first part consisted of oral reading test to determine miscues such as mispronunciation, substitution, insertion, omission, reversal, repetition, and refusal to pronounce. The second part was the reading comprehension test which involved seven questions categorized into three dimensions, namely, literal, interpretive and applied. The critical questions were subsumed in the applied dimension. For each question, there were four choices to choose from.

Data Gathering Procedure

The researcher obtained a letter of recommendation from the Dean of the School of Graduate Studies of Bukidnon State University, Malaybalay City to administer the research instrument of the study. After securing the dean's recommendation, the researcher proceeded to the Office of the Principal of MSU-IIT COOP Academy to ask formal permission to conduct the study to the researcher's Grade VI Section Mendeleev advisory class.

The administration of the research instrument took two successive sessions. For the first session the pupil-respondents answered the self-perception questionnaire. It took 15-20 minutes. In the second session, they accomplished the Phil IRI post-test form.

Statistical Tool

In this study, the following statistical measures were used in the analysis and interpretation of data:

Mean score, Frequency and Percentage were obtained to identify the reading-related self-perceptions of grade six pupils to identify the reading ability of grade six pupils.

Results

This section presents the finding, analysis, and interpretations of the data collected from the questionnaires used in the study.

Readers' Self-Perceptions of the Grade Six Pupils

Table 1 shows the level of readers' self perception on reading in terms of progress, i.e. the reader's perception of their present reading performance as compared with their past performance.

Table 1.

Level of Readers' Self-Perception on Reading Progress

Readers' Self-Perception Levels	No. of Pupils	Percentage
High	2	4.9
Average	17	41.5
Low	22	53.7
	41	100

As reflected in the table above, the overall self-perceptions of the readers fall under *low level*. They perceive their reading progress to be *low*. This means that they have a low self perception on their present reading performance. On the other hand, almost half of them believe to have average reading progress while a marginal number of the respondents have high progress.

Table 2 shows that level of readers' self-perception in terms of observational comparison, that is, how children perceive their reading performance in comparison with the performance of their classmates.

Table 2.

Level of Readers' Self-Perception on Observational Comparison

Readers' Self-Perception Levels	No. of Pupils	Percentage
High	3	7.3
Average	30	73.2
Low	8	19.5
	41	100

As can be gleaned, the overall self-perceptions of the readers fall under *average level*. They perceive their reading performance as compared to their classmates is *average*. A marginal number of readers fall under the two extreme levels: those with high and low self-perception in terms of observational comparison. It suggests that many students believe that they read text fairly than their peers.

Table 3 shows the level of reader's self perception in terms of social feedback. This includes direct or indirect input about their reading from teachers, classmates and people in their family.

Table 3.

Level of Readers' Self-Perception on Social Feedback

Readers' Self-Perception Levels	No. of Pupils	Percentage
High	6	14.6
Average	22	53.7
Low	13	31.7
	41	100

As shown in the table above, the overall self-perceptions of the readers fall under *average level*. They perceive that the inputs they receive from teachers, classmates and people in the family about their reading are *average*. A smaller percentage has low self-perception while a

marginal number have a high self-perception regarding the other people's view of their reading performance. The results indicate that the respondents have gained adequate direct or indirect input about reading from others. They also perceive that their teacher and the people in the family believe that they are good readers.

Table 4 provides the level of readers' self perception in terms of physiological states, i.e. the internal feelings that they experience during reading.

Table 4.

Level of Readers' Self-Perception on Physiological States

Readers' Self-Perception Levels	No. of Pupils	Percentage
High	6	14.6
Average	25	61.0
Low	10	24.4
	41	100

As evidenced in the table above, the overall self-perceptions of the readers fall under *average level*. They perceive that the internal feelings that they experience during reading are average. A few of them have high self-perception while a marginal number perceived to have low self-perception. This suggests that majority of the sixth graders experience positive feelings when they read. At school, some pupils read stories about heroes, princes, and princesses. When they read, they smile or feel happy when the main character wins a battle or solves a problem.

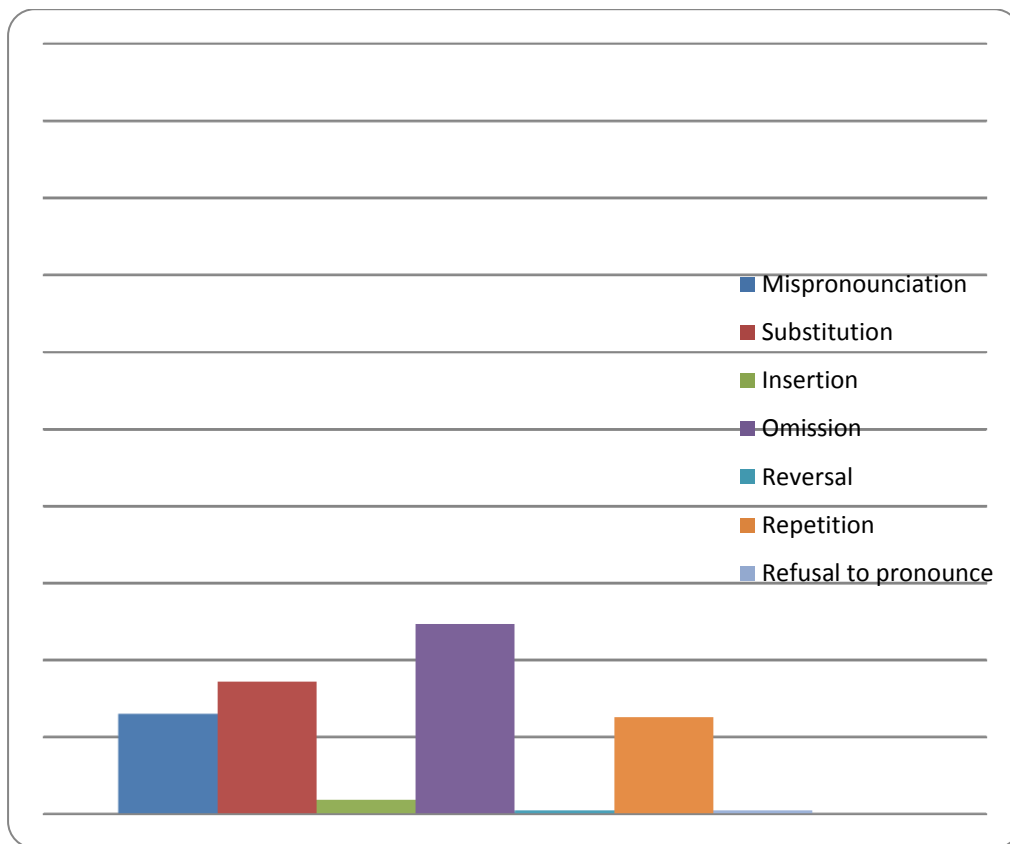
Word Recognition Ability of Grade Six Pupils

Reading ability is influenced by word recognition. Before children can begin to read, they need to understand the relationship between a symbol or a combination of symbols and the sound, or sounds, they represent. The ability to sound out or decode words is an important step in reading (Bustos, 2013). When children correctly sound out a word, they are able to map it to their listening and speaking vocabulary. They are able to do this without thinking about it because they have mastered the rules of phonics.

Figure 2.

Word Recognition Miscues of Sixth Readers

Percentage of Errors Committed



As can be gleaned, the four observable reading miscues that emerged are omission, substitution, mispronunciation and repetition. Of these, omission is the predominant error made by sixth graders which constitutes 24.65%. Omission occurs when a pupil omits a sound or a word in the text but continues to read. It is shown when a pupil reads, *He pronounces words properly* instead of *He pronounces the words properly* (Phil IRI, 2012). According to Villamin and Villamin (1994), this is caused by the readers' carelessness, lack of concentration, rapid reading without understanding and the desire to catch up with the eyes when pupils vocalize. The following further illustrates this reading miscue.

Reading Comprehension Ability of Grade Six Pupils

Table 5 presents the reading comprehension ability of sixth graders in four dimensions. Table 5.

Reading Comprehension Level of Sixth Graders in Four Dimensions.

Reading Dimensions	Comprehension	Total Score	Percentage	Comprehension Level
Literal		104	82.53	Instructional
Interpretive		70	78.57	Instructional
Critical		50	59.52	Frustration
Applied		20	47.61	Frustration

As noted, the sixth graders obtain low comprehension in the critical and applied levels since the scores of 59.52% and 47.61% respectively fall under frustration level which ranges from 74% and below.

Table 6 shows the general reading ability level of grade six pupils in terms of reading comprehension.

Table 6.

Overall Reading Comprehension Level

Reading Comprehension Percentage Score	Frequency	Percentage
90 – 100 (Independent Level)	7	17
75 – 89 (Instructional Level)	21	51
74 and Below (Frustration Level)	13	32
Total	41	100
Average Score = 72.56 (Frustration level)		

As can be noted, majority of the respondents obtain 75 - 89 percentage score which means that their reading comprehension reaches the instructional level. On the other hand, 32 percent of the respondents are in the frustration level and a marginal number of the respondents are independent readers. However, the average reading comprehension level of the sixth graders is 72.56 percent which falls under frustration level.

CONCLUSIONS

Based on the results, the findings of the study showed that, as a whole, the readers' self-perception of the grade six pupils was in the average level. In detail, the readers' self-perceptions of the grade six pupils in terms of the four subscales demonstrated that they got low level in progress; and, they got average level in observational comparison, in social feedback, and in physiological states.

Generally, the reading ability level of the grade six pupils was in the frustration level. Specifically, the respondents reached independent level in word recognition while they got frustration level in reading comprehension with 72.56%.

Conclusions:

Based on the findings, the following conclusions were drawn. First, the grade six pupils' self-perceptions about their present reading ability have slightly improved with respect to their past reading ability since they got low level in progress. Next, since they got average level in observational comparison, the pupils perceive their reading ability to be fair as compared with that of their classmates. Third, since they got average level in social feedback, the pupils get adequate direct or indirect input about their reading ability from teachers, classmates and people in the child's family. Fourth, since they got average level in physiological states, the pupils form good internal feelings that they experience during reading. Fifth, since they reached the independent level in word recognition, the grade six pupils are fast readers. They can recognize and read words easily while reading. Finally, they have difficulty in reading comprehension and deriving meaning from what they read.

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A Study on Non-violent Disciplinary Methods and Influential Factors to its Adoptions in Bangkok High Schools

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Abstract

The elimination of school corporal punishment is a global effort. Previous researches showed that the effort may be especially difficult in countries that have corporal punishment as a long-standing disciplinary method. Sixteen years after the corporal punishment legal ban in Thailand, this qualitative study aims to study active non-violent disciplinary methods in Bangkok high schools and unravel the reasons why such methods are adopted. Nineteen teachers from two Bangkok high schools were interviewed. The study found that there are various forms of non-violent disciplinary methods currently in use by the research participants. The study also found two major factors that influence the teachers to adopt non-violent disciplinary methods, which are personal and institutional factors. From the analysis, the researcher found that personal factors are more influential for teachers to adopt non-violent discipline. The researcher argues that there is a high level of pragmatism among teachers, which significantly affects their choices of student disciplinary methods. Results of the study also showed that several teachers were able to stop using corporal punishment even though they experienced corporal punishment in the past.

Keywords: Bangkok, Corporal Punishment, Human Rights, School, Student Discipline

1. Introduction

In 2000, the Ministry of Education of Thailand has issued a ministerial regulation in the punishment of students (Ministry of Education, 2000, pp.2-3). The regulation reversed certain aspects in the 1972 ministerial regulation during military regime. The 2000 ministerial regulation prohibited the use of ‘violent’ punishments, and it gave five explicit ways to punish students (Ministry of Education, 2000, p.1). The 2000 ministerial regulation challenged the long-standing corporal punishment use in Thai schools. Under the ministerial regulation in 2000, corporal punishment performed by teachers was no longer a punishment method, it can be considered a physical assault according to the Criminal Code. This move can be seen as Thailand’s compliance to the Convention on the Rights of the Child (CRC). The convention has been in effect in Thailand since 1992. However, skepticism arose whether Thailand really did implement the corporal punishment ban in schools when a research conducted in 2006 by Assistant Professor Sombat Tapanya of Department of Psychiatry, Chiang Mai University. The researcher distributed 1,300 research questionnaires to schoolteachers around Thailand. The research showed that corporal punishment in Thai school was still in practice (Kanchanajitra et al., 2009, p.99). A lot of emphasis have been directed to where teachers are doing “wrong”. However, little emphasis has been put on the remaining 40% of the teachers who does not support corporal punishment might have stopped using corporal punishment. A question arises, how and why they can discipline students without the use of corporal punishment? Nowadays, alternative student disciplinary methods, which do not involve corporal punishment or other emotionally violent disciplinary methods, have been introduced. There have been some programs which aim to introduce positive disciplinary methods in Thai schools, but yet to be implemented countrywide. The positive disciplinary approach can be beneficial to student discipline, but it is still largely unknown in a Thai context.

1.1 Literature Review

1.1.1 Corporal Punishment in a Thai Context

Corporal punishment of children has existed in Thai culture for a long period of time (Jampian, 2015, p.12). In the past, rods were almost inseparable from student discipline in schools (Kanchanajitra et al., 2009, p.99). There is an extremely famous Thai proverb which says “tie your cows if you love them, hit your children if you love them”. Although the focus of this study will be on a school setting, teachers in Thailand can be considered the ‘second parents’ in a Thai context (Jampian, 2015, p.2). Hence, schoolteachers, apart from distributing knowledge, are expected to continue parents’ role in terms of disciplining students in schools.

Corporal punishment was codified in a 1972 ministerial decree under a military government. In the article 4, the ministerial regulation mentions 6 methods of student punishment, and hitting students with rods is one of the methods of punishment (Disapirom, 2002, p.82). The regulation specifies the allowed size of rod. The rod’s texture must be smooth, and its size must not exceed 0.7 centimeter. The maximum hits allowed are six times (Disapirom, 2002, pp.82-83). Here, corporal punishment was legally allowed in Thai society.

Hitting students with rod was then removed by the 2000 ministerial decree. The ministerial decree issued in 2000 listed only five methods of student punishment, deleting hitting students with rod out of the methods. The 2000 ministerial decree can be seen as a move to be compliance with the 1997 constitution and the 1998 child protection act. Hence, corporal punishment in a school setting was legally removed, and any corporal punishment used in school can be considered a violation of the ministerial decree.

Despite the corporal punishment ban in 2000, there was a research conducted by Dr. Sombat Tapanya in 2006 which revealed that 22.5 percent of 1,300 sampled teachers use rod to hit students (Tapanya, 2006). 9.8 percent of teachers stated that they hit students with their hands within the year (Tapanya, 2006). A research conducted by Sasiprapa Jampian in 2012, where 21 teachers were interviewed, also revealed that some teachers continue using corporal punishment in classrooms despite the corporal punishment ban (Jampian, 2015, p.59). Moreover, Jampian has surveyed students as well and found that 198 of 273 students surveyed were physically punished in school within the year 2011 (Jampian, 2015, p.60). There are various methods of punishment that can be physically and emotionally harmful, some of which are physical punishment, emotional punishment (confiscation of students' belonging, shaming, and cutting hair) (Jampian, 2015, p.53). However, there are some non-violent methods, some of which are report to parents, point reduction, extra homework, behavior development, and parole (Jampian, 2015, p.53). The continued use of corporal punishment in Thai schools despite the ban was well acknowledged by UNICEF. Andrew Morris, the Deputy Representative for UNICEF Thailand, commented that corporal punishment "is still used in far too many schools around the country. Some teachers apparently are still not aware of the ban on corporal punishment, and some teachers who are aware of it are obviously ignoring it." (UNICEF, 2010).

It is evident that corporal punishment is a deep-rooted practice in a Thai approach to student discipline. However, there are some methods of student discipline that does not involve physical and extreme emotional violence as presented by Jampian.

1.2 Statement of Research Problem

In Thailand, corporal punishment has been taken out of legal student punishment methods since 2000. In the same manner as many countries around the world, researches showed that corporal punishment is still being used by some of the teachers in Thailand. Although previous research findings showed that corporal punishment use has decreased in frequency or stopped for some teachers, these researches did not pursue how and why teachers choose to adopt non-violent disciplinary methods. Most of previous researches focused on the corporal punishment use rather than the adoption or partial adoption of positive disciplinary methods.

Hence, there is a gap of knowledge on what motivates teachers to shift away from violent forms of discipline. There are many concepts and guidelines on how teachers can adopt positive disciplinary methods in theory, but little details are known regarding how teachers in Thailand have adopted or partially adopt the non-violent disciplinary methods. There is a lack of research which aimed to increase understandings in how and why teachers in Thailand can discipline students without the use of corporal punishment. The researcher understands that to remove corporal punishment out of schools is a long progress. Thus, developments on teachers' disciplinary practices can be studied by adopting a different approach to study this phenomenon. This research aims to fill the gap of understandings in this matter.

1.3 Research Objectives

- To examine non-violent disciplinary methods used by teachers in Bangkok high schools
- To examine factors in which influence teachers to adopt non-violent disciplinary methods

1.4 Research Questions

- What are non-violent disciplinary methods used by teachers in Bangkok high schools?
- What are the factors that influence teachers to adopt non-violent disciplinary methods?

2. Methodology

“A study on non-violent disciplinary methods and influential factors to its adoptions in Bangkok high schools” is a qualitative research aims to study teachers’ approach to non-violent discipline in Bangkok public high schools. The researcher identifies teachers as the major stakeholder in schools, especially in the matter of student discipline.

2.1 Participants

The participants of this study are teachers who are currently teaching in two public schools in Bangkok district. All the teachers are currently teaching at the high school level. In total, nineteen teachers were purposively sampled from the two schools. In order to keep the confidentiality of the participants’ and the schools’ identities, the researcher has assigned the letter ‘A’ for the name of the first school, and ‘B’ for the second school. Nine teachers from the ‘A’ school were interviewed. Nine teachers from ‘A’ school will be addressed by a letter and a number (A1, A2, A3,..., A9). Likewise, ten teachers who were purposively sampled from the ‘B’ school will be addressed as B1, B2, B3,..., B10. It should be noted that the letters ‘A’ and ‘B’ do not carry any meanings nor imply the initials of the school names.

2.2 Research Instruments

To answer all of the research questions, the researcher organized in-depth interviews as a research method for interviewing teachers in Bangkok schools using semi-structured interview guideline as the research tool to capture two aspects, which are non-violent disciplinary methods used by teachers in Bangkok school, and factors that influence teachers to adopt non-violent disciplinary methods.

2.3 Data Collection

The researcher employed semi-structured interview to capture two aspects, which are non-violent disciplinary methods used by teachers in Bangkok school, and factors that influence teachers to adopt non-violent disciplinary methods. The interviews were conducted in Thai, as it is the native language of both the interviewer and interviewees. The interviews length varied between 30 minutes to 1 hour. The researcher interviewed teachers to the point of *theoretical saturation* where data is repeated and no longer contributing to the concepts. Then, the researcher proceeded to analyze the collected data.

2.4 Data Analysis

To analyze data from the in-depth interviews with teachers, the researcher employed a *grounded theory* technique as a framework for analyzing the collected qualitative data. The researcher firstly transcribed the information from audio recording to text. Secondly, the researcher employed coding process which distinguishes themes of the collected data. Then, the researcher identified each theme accordingly to the two research questions. Lastly, the research reported the relevant points to answer two research questions, which are non-violent disciplinary methods used by teachers in Bangkok school, and factors that influence teachers to adopt non-violent disciplinary methods.

3. Results

The followings are the results of the study:

3.1 Teachers' Practices: Non-violent Disciplinary Methods

From the interviews, some of the sampled teachers do not use corporal punishment. There are ten teachers (A2, A8, A9, B2, B4, B6, B7, B8, B9, B10) who do not currently use corporal punishment to discipline students. These teachers claimed that they rely solely on non-violent disciplinary methods. Some of the methods used by these teachers can be categorized as positive disciplinary methods. For example, reward (compliment) and encouragement. As teacher B6 claims:

[I] use positive discipline. For example, compliment them even for a minor good behavior ... Of course, we have to make [students] proud of themselves. When they are proud of themselves, if they feel that they are not bad people, when they feel that they are good people and are capable of doing good, they want to do good. ... [I] make them feel successful in various steps. For example, during class, I compliment them if they can answer [me] correctly. For my class, when they attend competition, I will cheer them up, and in the meantime, I will help taking care of them. ... [I] will compliment [them] in front of the class to make them proud of themselves.

The encouragement of good behavior technique can be observed among some of the sampled teachers (A7, B2, B4, B6, B9). This style of student discipline would emphasize on the encouragement of desirable behavior rather than seeking to punish wrongdoings. However, indiscipline can be inevitable in schools. Hence, there are some non-violent disciplinary style that can punish and correct undesirable student behaviors. A majority of teachers emphasize on the importance of discussions with students with behavioral problems. Verbal reprimand is the first step in disciplinary process. When facing with minor misbehaviors in class, some teachers develop techniques to cope with such misbehaviors. As teacher B8 claims:

I see *bad behaviors* as the behaviors that block students' learning, such as using mobiles in class, talking in class, and walking around. I would tell [a student] "OK, do not walk around. If you walk, I will ask you to stand". Standing not to torture [student's] legs, but to make [the student] realize that what he/she is doing is not right. [I] would allow [students] to sit in less than two to five minutes ... Sometimes, I do not punish, but I would look straight to [the student's] face and ask "Do you know why I am looking at you?" to stop [the student] and make [the student] realize that there's something wrong in what [the student] is doing ... [I] let them react on themselves, and [the matter] is done. There would be *no physical punishment*.

The technique and its variances are common among several teachers. However, there may be more serious disciplinary offences that verbal reprimand and these techniques may not be appropriate. For that matter, the use of behavior record is widely used among teachers. The student has to sign the behavior record that he/she truly misbehaved and willing to accept further disciplinary actions if the student makes offences again. Some of the further disciplinary actions are extra homework, point deduction, notification to parents, referral to 'discipline office', disciplinary probation, etc. Teacher A9 provided disciplinary process as "[I] punish [student] according to the steps that we will give verbal reprimand first. Then [I] would make a behavior

record. [Then I would] invite parents [to school], and [placing the student] on disciplinary probation”.

From the interviews, several teachers (A1, A3, A4, A5, A6, A7, B1, B3, B5) use corporal punishment as one of the student disciplinary methods. However, the fact that they use corporal punishment does not exclude them from using non-violent disciplinary methods. Several teachers in this group stressed the importance of non-violent disciplinary methods. Moreover, four teachers (A3, A4, A5, B1) in this group claimed that they have significantly reduced corporal punishment use and now rely heavily on non-violent disciplinary methods. There are some non-violent methods that these teachers prefer to use, some of which are verbal reprimand, point deduction, behavior record, notification to parents, suspension, and disciplinary probation.

There is a significant disciplinary tool that has been recently activated. Grade retention has been allowed by the Office of the Basic Education Commission. The policy states that students with GPA lower than 1.00 or students who have ‘0’ grade more than half of the courses may repeat a year in the same level. The policy is in effect in the ‘A’ school, but yet to be enforced in the ‘B’ school. In the ‘A’ school, two teachers (A2, A3) stated that there is a serious academic problem in the school. The two teachers claimed that a lot of students does not care about their academic performance. However, after the implementation of the grade retention policy, several teachers (A3, A4, A5, A7, A9) claimed that grade retention can be effective to encourage students to pay attention to their academic performance. As teacher A3 stated:

Some students have to repeat a year. This is an adjustment of students’ academic behavior ... Students started realizing that teachers truly implement [grade retention]. Some [students] could retake 20 [0 grade] into 10 [0 grade] within a few weeks. This shows that if we have a *controlling method* in which can stimulate [students] to perform, [student] can perform. We did not have such process before.

Although the grade retention policy is not active in the ‘B’ school, four teachers (B1, B7, B9, B10) in the ‘B’ school said that grade retention can be effective if implemented in their school.

To summarize, non-violent disciplinary methods are widely present in sampled Bangkok schools. Some teachers have demonstrated that it is *possible* to solely use non-violent methods to discipline student.

3.2 Influential Factors to the Adoption of Non-violent Disciplinary Methods

From the interviews, the researcher can identify factors that may increase non-violent disciplinary methods uses or decrease corporal punishment uses. The factors can be categorized into two categories, which are personal factors and institutional factors. The followings are the results of the study:

3.2.1 Personal Factors Contributing to the Adoption of Non-violent Disciplinary Methods

In terms of personal factors contributing to the adoption of non-violent methods, the researcher has found that such factors can be categorized into two kinds, which are teachers’ experiences with discipline, and perceived effectiveness and ineffectiveness of corporal punishment and non-violent discipline.

3.2.1(a) Personal Factor: Teachers' Past Experiences with Discipline

Six teachers (A8, A9, B2, B8, B9, B10) who does not use corporal punishment stated that personal experiences involving discipline contributed to their adoption of non-violent disciplinary methods. There are two kinds of experiences in this factors, which are negative and positive experiences of teachers. Negative experiences involving corporal punishment influenced six teachers to use non-violent methods. When asked why she does not want to use corporal punishment, teacher A8 answered:

It is a bit of my personal story. When I was a child, I was a good student. I never missed anything. There was one time when a science teacher assigned students to make a scientific project, I forgot to do it. The science teacher said who did not do the project must stand in front of the class. It was not positive at all. I was irresponsible. I was really sad ... the teacher used a ruler to hit me ... It is a scar in my heart. Today, I am a teacher. If I do the same thing that I have experienced to [my] students, the issue resurfaces. I will avoid hitting students.

Such negative experiences are common among the six teachers. All teachers in this group simply avoid using the method that they disliked when they were students. For some teachers (B2, B9, B10), positive experience regarding discipline may influence them to adopt non-violent disciplinary methods. When asked how the teacher can stop the 'cycle of violence', teacher B9 replied:

It is what my parents taught me. My parents told me their stories that they were raised with rods, but they have never used [the rod] with me. It makes me *believe* that I can do it [without rod]. They did not use what they have experienced against me. This taught me to think that if I can grow up without rods, and I can conform to rules, I can probably pass this [idea] to the next generations. As a teacher, I do not teach only my children, but other people's children.

Likewise, teacher B2 reveals the source of his disciplinary style:

I learned it [disciplinary methods] when I was a student. I knew a teacher who is my idol. A traditional teacher, [the teacher] should be 50 years old by now, but [the teacher] never hit students. [The teacher] used only *words*. Only words but very strict. It is [the teacher's] characteristic, tough on the outside but soft inside. [I] have been using [the teacher's] style ever since.

From the interviews, personal factors can influence teachers not to use corporal punishment. There are six teachers who demonstrated their personal effort to adopt non-violent disciplinary methods instead of corporal punishment. In sum, both positive and negative experience can discourage some teachers to avoid using corporal punishment, and influence some teachers to adopt non-violent methods.

3.2.1(b) Personal Factor: Perceived Effectiveness and Ineffectiveness of Various Disciplinary Methods

Research findings reveal that both perceived ineffectiveness of corporal punishment and/or effectiveness of non-violent disciplinary methods can influence teachers to adopt non-violent disciplinary methods. Perceived ineffectiveness of corporal punishment can influence teachers to adopt non-violent disciplinary methods. Several teachers (A2, B2, B4, B7, B9) have acknowledged the ineffectiveness of corporal punishment. Teacher A2 offers his opinion that:

In the past, I hit students. I thought that hitting [students] is needed, but when I reflected [to my actions], there is no benefits because it [corporal punishment] cannot correct their [students] behavior anyway. It could correct [behaviors] in a *short-term* basis. Hence, I try to use more reasons with them [students] nowadays.

Teacher B2 also expressed his opinion regarding the ineffectiveness of corporal punishment in a long-term basis:

I do not think that corporal punishment does not solve [disciplinary] problems. Some teachers who use corporal punishment can solve [disciplinary] problems, but the matter is whether it can be *short-term* or *long-term* [solutions] ... I have to say that hitting [students] is not effective. There is no long-term effect, but it [corporal punishment] does produce short-term effects ... Rods can solve problems in a short-term manner, I agree, but verbal discipline solves [disciplinary] problems in a long-term basis.

According to five teachers (A4, B1, B7, B8, B10), using corporal punishment can lead student to develop resistance against further discipline. Teacher B8 shared her opinion on this matter that:

Mentally harming students or shaming them [students] can cause *resistance* [among students] which leads to further problems. After this, they will not come to talk with us if they have problems, or they develop a behavior that they do not pay attention to our class.

The perceived ineffectiveness of corporal punishment can be a 'push' factor in which repels teacher from using corporal punishment. On the other hand, perceived effectiveness of non-violent disciplinary methods can be a pull factor to encourage teachers to adopt non-violent methods. Five teachers (A9, B1, B2, B4, B6) has mentioned that non-violent disciplinary methods can be effective. Teacher B1 shared a program that is effective:

Now there is a school executives' policy to organize an academic competition in which compare the improvements of overall GPA of each class. The class that can achieve a higher GPA improvement will receive a prize ... if they try to compete in terms of academic performance, *discipline* will follow. Vice versa, if they [students] are disciplined, *academic performance* will follow. This is because they [students] do not skip classes ... [it is] effective. Now, they [students] rush to turn in their projects.

To summarize, perceived effectiveness and ineffectiveness of various disciplinary methods can influence teachers to adopt non-violent disciplinary methods. Several teachers stated

that corporal punishment may correct disciplinary problems in a short-term manner, but non-violent methods may solve disciplinary problems in a long run.

3.2.2 Institutional Factors Contributing to the Adoption of Non-violent Disciplinary Methods

Five teachers (A9, B1, B2, B6, B10) claimed that the laws and regulations regarding corporal punishment in schools has affected them in terms of their disciplinary styles. When asked whether he uses corporal punishment, teacher B10 replied “No, I do not hit students. It is because there is a policy that *prohibits* hitting students”. Moreover, in the ‘B’ school, the principal does not condone corporal punishment use, as teacher B6 claims “Here at this school, the principal’s policy is that [he] does not encourage hitting students. If there are corporal punishment uses, it will be considered as a disciplinary offence of teachers. Teachers should consider themselves warned by the principal”.

Two teachers (B8, B9) have mentioned that the law and regulations regarding corporal punishment have contributed to their perceived decrease in corporal punishment use. When asked about changes in terms of corporal punishment use, teacher B8 replied “I think it [corporal punishment use] is decreased because of the law”.

Nonetheless, several teachers (A2, A7, B4, B5) who either using or not using corporal punishment, claimed that the law and regulations regarding corporal punishment do not affect them. When asked whether the law affect her disciplinary style, teacher A7 replied “I believe that the law does not affect me”. Teacher B4 also mentioned that “Personally, I believe that whether there is the [corporal punishment] law or not, they [teachers] will hit students as usual. It [the law] is not the point at all”.

In summary, the law and regulations regarding corporal punishment can influence some of teachers to stop using corporal punishment or decrease corporal punishment use. However, the law and regulations regarding corporal punishment may not affect some teachers at all.

4. Discussion and Conclusion

4.1 Discussion of the Results

From the research findings, it is evident that several teachers can effectively discipline student without the use of corporal punishment. Many teachers have developed both non-violent disciplinary methods to *encourage* good behaviors and non-violent punishment to *discourage* or *correct* undesirable behaviors. Teachers’ emphasis on reward and positive behaviour encouragement is in line with Save the Children’s statement in which stated that children can react more positively to ‘reward’ when compared with ‘punishment’ (Save the Children, 2014, p.13). Discussions between students and teachers are one of the most popular non-violent methods that are used by teachers. The findings concur with Morrell’s findings where Morrell claimed that corporal punishment is used less frequently and it is being replace by alternative methods of punishment, such as consultative processes (Morrell, 2001, p.296). Such positive disciplinary methods revealed by this study indicate that there are some globally accepted methods that are being used in the sampled schools.

This study also found two major influential factors which contributed teachers to adopt non-violent methods. Firstly, teachers’ negative personal experience with corporal punishment can influence teachers *not* to use corporal punishment against their students. Interestingly, the findings contradict with the ‘cycle of violence’ theory as presented by Harber in the context of school. Harber (2004, pp.72-75) argued that the ‘cycle of violence’ occurs when corporal

punishment was accepted by the society via previous generations' experience of corporal punishment in schools. Moreover, the study found that teachers' reactions to corporal punishment in their past are sharply contrast to Mamatey's findings. Mamatey's research found that Korean teachers in the study also had 'unpleasant' experiences of being corporally punished when they were student, but the teachers still use corporal punishment with their students anyway (Mamatey, 2010, p.195).

Also, effectiveness of various disciplinary methods can become 'push and pull' factors which influence teachers to adopt non-violent disciplinary methods. The findings that corporal punishment cannot solve behavioural problems in a long-term manner concur with Harber's argument where Harber (2004, p.80) argued that a major negative aspect of corporal punishment is that it does not change student misbehaviors in a long-term fashion. Hence, several teachers realized that corporal punishment can be ineffective, and these teachers moved away from using corporal punishment to non-violent disciplinary methods.

Secondly, there are some teachers who adopt non-violent methods due to the illegality of corporal punishment. However, such legal reasons do not affect other teachers in the study. Several teachers, whether they use corporal punishment or not, claimed that they are not affected by the laws and regulations regarding corporal punishment at all. The findings regarding partial ineffectiveness of the law agree with Morrell's argument that the law alone cannot stop the use of corporal punishment at home and school (Morrell, 2001, p.296). In another perspective, the findings also somehow agree with Jampian's findings where Jampian stated that regulations regarding corporal punishment is not being "taken seriously by the [majority of] school authorities" (Jampian, 2012, p.203).

The researcher argues that personal factors are more influential for teachers to adopt non-violent discipline. The majority of teachers extensively discussed the effectiveness and ineffectiveness of various disciplinary methods. From the interviews, the researcher observed that there is a high level of *pragmatism* among teachers. Teachers tend to lean towards the most effective disciplinary methods in their perceptions. Another personal factor which is teachers' experience with various disciplinary methods disagrees with previous researches. The researcher is aware that although such factor can be highly personalized, it is shared by several teachers. Thus, the researcher argues that the movement to eliminate corporal punishment from Thai schools cannot rely solely on the law alone. The researcher recommends advocates of non-violent student discipline to take this personal factor as one of the grounds for their advocacy. Non-violent discipline advocacy should also aim to inform teachers about the ineffectiveness of corporal punishment, and also help teachers devise effective positive discipline.

4.2 Conclusion

To summarize, this study examined some of the non-violent disciplinary methods which are currently in use by teachers in two Bangkok high schools. The study also revealed two influential factors that contribute teachers to adopt non-violent disciplinary methods. The researcher expects this study to be a ground for further studies and advocacy of non-violent student discipline.

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Children In Nhu Thanh District, Thanh Hoa Province Of Vietnam: An Assessment From Well-Being Perspective

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Abstract

This paper aims to assess the causes of the current state of children in Nhu Thanh district. Due to lack of awareness of parents, community, and the children themselves with regards to child rights, children's being love and knowing to love other people was not shown obviously. Many children spent time helping family chores; they had little time playing with friends at their same age. Parents of ethnic minority children and difficult families spent most of their time making a living and could not make time to care for their kids. Some disadvantages in natural and socio-economic conditions also make children here become more vulnerable.

To contribute to improve children well-being in Nhu Thanh district, some recommendations was proposed: raising the awareness of community about caring and protecting children; creating a child protection department and/ or appointing child protection officer(s) at all levels; mobilizing resources and promoting community participation/ children participation in child caring and protetion.

Keywords: children well-being, improving, Nhu Thanh District

1. Introduction

1.1. Well-being has been defined in many ways which are from very simple to more complex, moving from less focus on welfare and survival to the more recent focus on flourishing and optimal development. In 1948, the World Health Organization (WHO) defined health or well-being as “a state of complete physical, mental, and social well-being and not merely the absence of disease”, this encourages governments to consider a wider range of factors contributing to well-being beyond the absence of diseases. Since then, well-being has developed as an overarching concept which is generally used to describe the quality of people’s lives (Rees et al, 2010). The Government Office for Science Foresight Report on Mental Capital and Wellbeing (2008) suggests that “Wellbeing is a dynamic state that is enhanced when people can fulfill their personal and social goals and achieve a sense of purpose in society. Rather than being static, well-being emerges from how people interact with the world around them at different points in their lives. It is understood both in relation to objective aspects, such as household income, educational resources and health status; and subjective indicators such as happiness, perceptions of quality of life and life satisfaction”.

Many scholars view children well-being as an overarching construct, which subsumes a variety of objective and subjective life domains (Randolph, Kangas, & Ruokamo, 2009). In an important paper published in the first issue of Child Indicators Research, Ben-Arieh (2008) identified several overarching themes in the recent evolution of the field of child well-being conceptualization and measurement. These themes included a near universal acceptance of the convention, which highlighted promoting the best interests and optimal development of children. Ben-Arieh’s themes also included: (a) children should be the unit of analysis in accounts of their well-being; (b) children’s current subjective experiences must be taken into account; (c) well-being is multidimensional in nature, although summary indices may be useful in some circumstances; and (d) well-being is more than mere survival and requires positive indicators that reflect personal strengths and environmental assets, not simply the absence of problems or deficiencies. All of these themes reflect a growing expansion of the boundaries of the construct and a concomitant need for (a) developmentally appropriate measures to assess and monitor children’s well-being, and (b) empirically-based methods to promote well-being. Ben-Arieh and Fronès (2007a, p.1) have offered the following definition, also indicators-based: “Child well-being encompasses quality of life in a broad sense. It refers to a child’s economic conditions, peer relations, political rights, and opportunities for development”.

In practice, children well-being is usually considered as a multi-dimensional concept. This pragmatism is determined by the limited theory and data and by an understandable skepticism regarding the ability of younger children to respond to questions about their global subjective well-being. The dimensions are identified by consensus, with justifications drawn from the child research literature and the United Nations Convention on the Rights of Children.

As view of World Vision – an organization working for the well-being of children and their protection, children well-being refers to: (i) Positive relationships; (ii) Healthy individual development (involving physical and psychosocial health, mental, cognitive, social and spiritual dimensions); (iii) Contexts where all children are valued and experience in protection, social justice and participation in civil society.

A child’s well-being depends on his or her relationships with others and the social, political, spiritual, physical and environmental contexts that they live in. This is called the ecology of the child or an ecological model. The approach helps people to consider the different relationships, institutions, systems and structures that create a positive environment where a child can develop to his or her fullest potential. The theory shows the different levels and types of influence on a

child's development, from the closest (e.g. families and peers) to the farthest (e.g. political and cultural systems and structures). In each context, children are unique and they are affected in different ways. Children's nature, where they live, and who they live with effects and how they deal with the risk factors in their lives.

1.2. A wide variety of domains and measures are used to assess levels of children well-being. World Vision's understanding of children well-being is informed by four different perspectives: theological, developmental, ecological and political. These perspectives help WV to understand who children are, how they develop, what affects their development and who has responsibility for enabling them to develop fully. The children well-being aspirations (CWBA) and children well-being outcomes (CWBO) are World Vision's way of describing a holistic picture of children well-being. The foundational principles show our intent to utilize children rights to improve children well-being.

Essential conditions influencing improvement of children well-being include (1) The awareness of community about caring and protection of children; (2) The support from government's policies and local authorities; (3) Supports from government and other organization; and (4) The willingness of community to participate in caring and protection of children.

Table 1. Four Aspirations Toward World Vision's Goal for Children Well-being

Goal: Improve well-being of children within families and communities			
Girls and boys			
Enjoy good health	Are educated for live	Are loved and love others	Are cared for, protected and participating
Children well nourished	Children read, write, and use numeracy skills	Children enjoy positive relationships with peers, family and community members	Children are cared for in a loving, safe, family and community environment with safe places to play
Children protected from infection, disease, and injury	Children make good judgments, can protect themselves, manage emotion, and communicate ideas	Children value and care for others and their environment	Parents and caregivers provide well for their children
Children and their caregivers access essential health services	Adolescents ready for economic opportunity	Children have hope and the vision for the future	Children celebrated and registered at birth
	Children access and complete basic education		Children are respected participants in decisions that affect their lives

Source: World Vision, The handbook for Development Programs, p.10

1.3. The attention and care of children are more evident since Vietnam has signed the United Nation Convention on the Rights of the Child in the year 1990; which is a strong commitment of the Vietnam's Government regarding of protection, care and education of children, ensuring all children are subject to equal treatment and best conditions for full potential development and a safe and healthy living environment so that all children are entitled to basic rights and fulfill their obligations. Children are considered as the future of a country. So the protecting and caring children from early childhood is very important. However, children in Nhu Thanh district have not taken care in the proper way.

This paper aims to assess the real situation of children in Nhu Thanh district, focuses on analyzing the children status in education, healthcare, relationships with families, peers, and neighbors, and children protecting and caring aspects of children well-being, to examine they are enjoyed their well-being or not. The paper then puts forward the ideas to improve children well-being, give them more benefits, especially create for them a safer and more friendly environment to live, learn and play.

2. Methodology

Collecting secondary data was carried out for related information which consists of four main aspects of children well-being according to World Vision's criteria, which are: (i) Enjoy good health; (ii) Are educated for life; (iii) Are loved and love other; (iv) Are cared for, protected and participating. Secondary data was collected from relevant departments at district and commune levels including the Statistics department, Population department, People's Committee, department of Labour invalid and Social affairs, Department of Health Care, Department of Economic, Department of Education and Training, and other relevant official reports, documents, materials concerned to Nhu Thanh district as well.

Primary data was collected through conducting depth interviews with the head and staff of Nhu Thanh Department of Labor, Invalid and Social Affairs, Vice chairman of Nhu Thanh Women Union and group interviews at district and commune levels with children in Xuan Khang primary school and local people.

3. Findings

3.1. Socio-economic Conditions of Nhu Thanh District

Nhu Thanh is a mountainous district of Thanh Hoa province. It is about 200 km far from Hanoi Capital. Natural area of Nhu Thanh is 58,829.08 ha (5.28% of natural area in Thanh Hoa province). The district is affected by several disasters types, which are the features of tropical monsoon climate. The main happened disasters in the district were flash flood, land slide, flooding, big storm, drought, and forest fire. In addition, Nhu Thanh also faces to the high vulnerability in disasters which affect the living and production of local people.



Figure 1. Map of Nhu Thanh district

The total population within the district is 92,576 people. Vietnamese (Kinh people) formed the highest rate in the district (60.72%). This group mostly lives in the district center. The rate of ethnic people group in the district is Thai: 17.6%, Muong: 21.43%, the remaining is other minority ethnic groups like Tho and Tay: 0.23%. Almost all the local residents are farmers working in agriculture and forestry and depend deeply on the natural conditions. The rate of urban people in the district is just only 6.08%, who lives in the district town with main income from small business and service. About 94% of Nhu Thanh people are living in rural areas and their main income sources is from agriculture production.

Due to the limitation of land resource, while population is increasing, the lack of cultivating land is really a concern of the poor and near- poor households. So their income from agriculture production is quite low and they cannot afford for basis needs such as house, food and medicine. Thus, a large number of local people from poor households choose to work far away from home to ensure essential needs of their family.

Income per capita of Nhu Thanh district in year 2015 is USD 990 which is much lower than this figure of Thanh Hoa province and the whole country which are USD 1,530 USD and USD 2,200 respectively. Besides, among 17 communes in the whole district, there are 11 disadvantaged communes that have high rate of poor and near poor households with low living conditions. The current poverty rate of 23.9% and near poverty rate was 17.2% while poverty rate of Thanh Hoa province was 13.13%.

3.2. Situation of Children in Nhu Thanh District: Facts and Causes

3.2.1. Health and Health Care

Nutrition

Nhu Thanh district is the home of more than 25,267 children, accounting for almost 27.02 % of the total district population. According to the annual report 2015 of the district health care center, the rate of malnourished children in Nhu Thanh were 19.5% (underweight) and 29.5% (stunting). There were 8 over 17 communes with stunting rate of children under 5 years old higher than 30%.

Table 2. Malnutrition rate of children under 5 years old of 8 communes in Nhu Thanh

No	Commune	Under-weight		Stunting	
		Number	%	Number	%
1.	Xuan Tho	47	20.4	70	30.4
2.	Can Khe	97	19.1	157	30.2
3.	Xuan Du	112	20.3	175	31.4
4.	Phuong Nghi	98	20.0	149	30.4
5.	Xuan Khang	121	20.8	180	31.0
6.	Xuan Thai	75	20.3	109	30.2
7.	Yen Lạc	90	19.5	141	30.6
8.	Thanh Tan	110	20.0	165	30.0
	Whole District	1.533	19.5	2.335	29.5

Source: Department of Health Care report, Mar 2015.

The awareness of nutritional diet, taking a rest for pregnant women, supplemental feeding, breastfeeding, preparing food for children of households and community were limited. Regarding maternal care and diets, pregnant women often did not subjectively take proper care or diets. Especially, in the poor households, pregnant mothers did not practice a well-nourished diet or take rest before and after giving birth. They even did not have frequent prenatal check-up. Ethnic minority mothers often went to work again in the field or on the mountain less than one month after delivery.

The percentage of mothers practicing exclusive breastfeeding during the first six months was low, at only 19%. Baby food has mainly prepared by caregivers at their household with unbalanced nutritonal diet. Community consultation meeting at the villages showed that about 90% of mothers did not know about a good diet with a balanced nutrients or how to prepare food and care for ill children.

Prevention of diseases, contagious epidemics, accidents, and injuries

According to the 2015 report from district health department, the percentage of children under 1 year old fully immunized was 90.6%. Children often get common diseases which are mostly acute respiratory infections such as sore throat, pneumonia, and digestive diseases such as diarrhea. Cases of Acute Respiratory Infections (ARI) and diarrhea during the period Dec 2013 – Sep 2015 are as in table 3.

Table 3. Cases of ARI and diarrhoea, Dec 2013 – Sep 2015

Disease	Cases per Year		
	Dec 2013	Dec 2014	Sep 2015
ARI	1,128	1,318	1,500
Diarrhoea	365	395	296

Source: Nhu Thanh Healthcare center

Clean water and environmental hygiene at schools and households are concerning issue. Number of primary school with un-hygiene toilets was so high, 33 over 35 (94.2%). This rate at kindergarten was 71.6% (48 over 67). In most of main kindergarten, primary and secondary schools, latrines were degraded, stinky, and lacked of light; hand washing facilities were also similarly degraded, which made children hesitate to use latrines at school, and build no habit of washing hands after using latrines. Most “branch schools” which borrowed hamlet meeting hall as school location do not have latrines and water.

At the household level, especially households with difficult circumstances and ethnic minority people, the use of hygienic latrine and water management was limited. Percentage of households accessed to clean water source (in dry season) in four most disadvantaged communes of the district, namely Can Khe, Phuong Nghi, Xuan Thai and Yen Lac communes are 48%, 42.5%, 56.5% and 47%, respectively. These numbers are much lower than the phase-in threshold (60%). Percentage of households accessed to hygienic latrines of Can Khe, Phuong Nghi, Xuan Thai and Yen Lac communes are 48.7%, 32.2%, 16.6%, 35.2% respectively (the phase-in threshold is 50%). Households often used temporary latrines that they dug in their garden or rice fields. Therefore, latrines quickly got stinky and contaminated with food-related illnesses. Self-dug wells were covered with raincoat, tree branches, twigs and leave, which could invite insects and ground water running into it, causing contaminated water sources and being the reasons for some illnesses such as diarrhea. Some households have latrines but they were not hygienic. Others did not have latrine and they defecate in the forest, stream or river.

Basic health care services

Currently, health care service has been delivered to most of children and caregivers in their villages. The district has one general hospital, 17 commune health stations. However, the quality of health care service at villages and communes is poor, especially health facilities as well as equipment for diagnosing and curing diseases. In the remote villages, residents are very poor and it is too difficult for them to travel, so they only go to hospital when they face with severe illness. Children under 6 years old receive free health insurance according to the government policies, however the issuance of health insurance cards for children was still slow. Many children did not get their cards by the time they were 3 years old.

3.2.2. Educational Status

According to the data of Nhu Thanh Department of Education in 2015, the rate of children under 2 years old access to kindergarten was 40.2%. This rate even was so low in some poor communes such as 22.6% in Phu Nhuan commune, 33% in Thanh Tan commune. The rate of children from 3 to 5 years old go to pre-school was 98%. Children from 3 to 5 years old get the support of Government on school fee and lunch fee at school. This can be the root cause of this attending rate was high.

There are 17 kindergartens, 21 primary schools, 17 secondary schools, 02 high schools, and 17 community learning centers in Nhu Thanh district. Education conditions in the preschools and primary schools are very low. Most of them do not have good classrooms with essential facilities, safe playground, and toilets. The infrastructure did not meet the requirement of current education.

There were 54 branches pre-schools with temporary classrooms. Classrooms at two primary schools were in the temporary condition.

The district has enough teachers for teaching, but their qualities need to be considered. Due to the number of unqualified teachers, the rate of children with low school result was high.

According to the district People Committee report in Sep 2015, number of ethnic minority children accounts for 54.23% of the total children population. Therefore, Vietnamese language ability of ethnic minority children become an issue at their early age of schooling. Observation during the community visit shows that most of students in the remote communes currently learn and play in temporary classrooms, playgrounds, and libraries. The proportion of primary students who get access to library is under 20%. Limited access to quality libraries for reading, especially primary school aged children also leads to poor literacy. *“The library is next to teacher’s room but it does not open for students, I think so because I asked my head teacher for some comic books and magazines but she said that library was only used for saving school documents and did not have any book for children”*, said a student of Xuan Khang Primary school when asked about school library.

Life skills are something that is a new concept in the whole district. In schools, there is no detailed instruction document mentioning specific characteristics in life skills education for primary and secondary school students. It is popular to see that teachers focus their teaching on writing, reading and numeracy only. Therefore, life skills education for pupils has not been taken interest by teachers. In communities, parents and caregivers have not yet received any kinds of making awareness of raising life skills and the importance of life skills for children. Children are in risk to be vulnerable with regards to sexual abuse, injuries, and death from drowning so it is essential to educate life skills for the students to cope with challenges and risks in life.

3.2.3. Relationships with families, peers and neighbors

Most of children who are loved and well cared for live in the centre of the district or in the well-to-do families. The other children, especially many children of poor families, besides school work, they have to work with their family, and therefore, they do not have much time to play with friends or socialize with other community members.

From talking to teachers, some local children have to face with social matters with their parents or peers such as lack of love from mother/ father due to divorce/ orphanage, or mother/ father worked far away and could not spend enough time to care for them; having few friends to play with; fighting among classmates; quarrelling among parents; some friends had to drop school because they had to work to earn money.

Besides, due to language barrier, shy and lack confidence in communicating, ethnic minority primary and secondary school students have limitations in communication skills and other life skills. They are often open, proactive to communicate with their families but not proactive and timid in communication with strangers.

3.2.4. Most Vulnerable Groups

Among 25,267 children in the district, the rate of children living in difficult curriculum was 0.9% , but the rate of children living in poor and near poor households was 35.1% much higher than 18.5% of Thanh Hoa province.

In the district, there are 211 children with disabilities. The groups of children with disabilities was truly vulnerable because children did not feel they were as complete as peers, their participation in activities were also limited. From community consultation, teachers and mothers of children with disability shared that most children with disabilities did not go to school and needed extra care; children who could come to school also needed extra help from their family. Their physical incompleteness and dependency on care-givers, unfair treatment from peers, and

so on made children with disabilities feel bad about themselves, low self-esteem and no hope to the future.

3.2.5. *Children Protection and Caring*

At schools, children had few opportunities to access good care and study environment, to participate in activities. Many schools in the district only had enough expenses for elementary infrastructure, they did not have entertainment places or safe playgrounds. Not only in schools, most communes in the district did not have playground or entertainment places at all, therefore children often played on road sides. Besides, the child participation is almost new concept in local communities. The children's participation is recorded at very low level due to low awareness of child participation as well as limit resources. In schools, child participation has not been also introduced in any forms of education. Observation showed that they were very shy and found hard to raise their voices.

Some children living far from the school in the isolated places, have to travel 7-8 km of difficult roads, they do not have bicycles and must wake up early to walk to school. In some flood affected areas including Xuan Thai, many children can not go to school, some have to row the boats by themselves to school because of flooding.

In Nhu Thanh, there are many rivers, lakes and streams which can bring risks for children. However, there are no caution signs; child injuries and death from drowning were critical issues raised by local people during the interviews. According to reports of the district department of labor, invalids, and social affairs, in 2015 alone, the district had 215 injured children, 10 cases of death due to drowning.

3.2.6. *The awareness of community about children caring and protection*

Interviews conducted with local people show that many inhabitants in Nhu Thanh District lack of awareness about a comprehensive children caring and protection. When asked, most of parents in remote areas or poor people said that they could not take care of their children well because they have to spend time on earning for living. They have a few ideas of child rights, preventing children from diseases, social evil, child abuse and injury or nutrition for children. Besides, local people, especially ethnic minority people have not realized the importance of clean water and environment hygiene to their health. The number of children not fully immunized due to neglecting and lacking awareness of some parents, they forgot immunizing schedule, some parents did not even care if their children get immunized or some children may get fever after immunization, which made parents hesitate to get full immunization for their children.

Families and community have poor understanding on child protection. Many customs which are harmful for children, for example beating children, have been considered as "educational disciplines" which have been not paid attention by authorities. The issues of child maltreatment, abuse and exploitation have been not reported promptly as people did not want to be "bothered". People do not understand the impact of child abuse, violence and exploitation against children, which can make children have complex feeling or become revengeful to society or have similar acts against children in the future. Awareness on child protection has been very poor, including the limited understanding on laws or violation against children's rights that has resulted in the problems of child abuse by family members.

3.2.7. *Community participation in children caring and protection programs*

There are big differences in the way that local authorities and people participate in internationally sponsored projects and locally self-organized programs.

According to discussion to authorities at district level, commune level and school teachers, all of them were under the meaning of sponsorship and ready to coordination to program on implementation the project in the district. Local community is surely willing to participate in the

sponsored program as well as sharing child information, family situation and health, education condition of their children. Local people are expected to participate actively in all steps of project cycle particularly in the decision making process. They also show their commitment to contribute manpower and available resources to the project.

However, in terms of government and local authorities' programs, although community participation is not a new concept in policies and programs of Vietnam government (even the government has launched "*People know, people discuss, people do and people control*" policy, which creates favourable conditions for inhabitants taking part in the government policies and program related directly to their life), this policy is not effective and still has many problems.

The way Nhu Thanh people participate in policies and programs is only on the bottom level of participation ladder which named Manipulation, in which government and local authorities decide and do things to and for the people. Inhabitants are not informed of plans, decisions, actions, their rights and their responsibilities and have no chance for feedback and negotiation if the programs do not meet their needs. Heads of the villages and representatives of mass organization lack knowledge and skills to mobilize participation of local people and develop the community with participatory approach. Particularly, in caring and protection children, local authorities' activities lack of transparency and have no opportunity for people to participate.

4. Conclusion and Recommendations

Employing the perspective of children well-being, findings from this paper has showed that the causes of the situation of low level children well-being in Nhu Thanh district are the role of child care, protection and education by family, community and school has not been appropriately recognized. There is a lack of skills on child care, protection and education by parents, caregivers and children themselves. In addition, the problems of families such as poverty, parent separation or engagement in crimes, parents working far from home... can be the causes to make children drop out of school, or make they vulnerable in their own families. The cooperation in developing an effective child protection system has been limited and under-developed. Besides, most of the policies, programs and activities of children wellbeing use Top-down approach, ie. all guidelines, information, plans and fund processes come from the higher levels. Thus, the programs have not met the local people's and children's requirements and have low effectiveness.

In the coming time, in order to effectively improve children well-being, it is recommended to Nhu Thanh district to take the following activities:

(1) Raising awareness of community about caring and protecting the children

The Women's Union, Youth Union, local authorities, schools and mass media should cooperate in promoting public awareness on child care and protection issues, through the production of videos, leaflets and pocket sized books with clear, easy to remember messages and attractive layouts to disseminate directly to families, women and children; through club activities and artistic performances; talks and group meetings; through conduct training classes on how to protect children from illnesses, contagious diseases, and accidents/ injuries; introduce parent education program to teach them about positive parenting practices and non-violent discipline techniques; incorporate life skills education and parenting skills education in the core secondary school curriculum.

(2) Strengthen the support of local authorities and government

Professionalizing child protection services by the creation of a Child Protection Department and/ or appointment of child protection officer(s) at all levels. These officers should be provided with basic social worker training, and should be primary responsible for identifying, assessing and supporting children in special circumstances and children at risk.

Promoting a multi-disciplinary approach to investigation and assessment of children in special circumstances, with co-operation amongst the various agencies (police, CPFC, social workers, health care workers, teachers, and so on) in resolving cases of children in special circumstances. Allocate a specific budget for child and mobilize more resources from other partners and community. Resources could be mobilized from community such as money, land, workday, available materials to build schools, playgrounds, hygiene latrines or toys for children.

(3) Promoting community participation in caring and protection of children

Community involvement in child protection is vital, even when adequate protection services and structures exist and are operating effectively. Adults and children in a community are best placed to identify local protection issues and to develop the most appropriate solutions in cooperation with service providers. In order to fulfill children's rights to protection, an effective child protection system must engage and transform such community perspectives, working with the community itself.

It is necessary to establish and operate community-based child protection groups which are grouping of people, often volunteers, who aim to improve the protection and wellbeing of children in a village, urban neighborhood or other community at commune/ hamlet levels. However, establishing such groups is challenging and resource-intensive, and is best achieved by ensuring ownership by the local community and empowering it to take action.

Children's participation: Good practice for children's participation needs to focus on how participation can be meaningful, safe and ethical. Children play a very important role in ensuring effective protection within communities. This is important because children can have a different perception of what are the key vulnerabilities at local level, and they are able to reach out and identify other vulnerable children in the community. Children can also gain confidence and skills in expressing their views, which can further their own self-protection. Supporting children's participation involves systematic work with both adults and children. Adults need to be prepared to listen to children, to share information with them, and to seriously respond to children's concerns and suggestions. Children also need to be empowered to speak out, express themselves, and play an active role in the development of safe communities.

(4) Coordinating with and mobilizing resource from other organization

Coordinating closely with World Vision Vietnam in particular and with other NGOs and International organizations in general, become to main stakeholders. Those organizations has its own long-standing development history with valuable experiences in planning and implementing programs toward improving children well-being. Thus, becoming a partner of them under the projects is a good opportunity for local authority to learn more experience, have more comprehensive perspective of children well-being in general. Moreover, it helps strengthen the capacity in mobilizing community, building parents clubs or creating the safe playground for children.

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Ensuring sustainable livelihoods for people when land acquisition for building nuclear power plants in Ninh Thuan, Vietnam

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Abstract

Sustainable livelihoods are the resources needed and combined that people can cope with and recover from stresses and shocks, and can maintain or enhance property performance in both the present and the future without damaging the base of resources. Construction of nuclear power plants beside the positive effects, there are significant negative impact on the people living in the project areas and nearby. This paper aiming at assessing the impact of the nuclear power plants construction on the livelihoods of people in two districts in Ninh Thuan province, in order to have mechanisms and policies to support reasonable and effectively, contributing to stabilize people's lives , and local development.

Keywords: sustainable livelihood, land acquisition, compensation, restlement.

Introduction:

The National Assembly passed Resolution No. 41/2009 / QH12 of November 25, 2009 on the policy of building a nuclear power plant in Ninh Thuan 1 located at Phuoc Dinh commune, Thuan Nam district and nuclear power plant Ninh Thuan 2 located in Vinh Hai commune, Ninh Hai district, Ninh Thuan province. These are large-scale projects, with strategic significance, serving socio-economic development of the country entering the completion phase of industrialization and modernization and become an industrial country.

Thuan Nam and Ninh Hai is two agricultural district of Ninh Thuan province, people live mainly on agricultural production activities such as cultivation (crop mainstream grapes, onions, garlic ...) and aquaculture. The people's lives in these districts still have a lot of difficulties. Nuclear power plants construction projects are being implemented initially steps. Accordingly, a large area of land and labor for agricultural production and the development of economic and society activities have been mobilized. In particular, a part of the population living in this area have to move far away from power projects; an infrastructure division will be broken, their life will be affected.

The paper focuses on the analysis of the impact of the nuclear power plants construction on the sustainable livelihoods and propose mechanisms and specific policies to ensure sustainable livelihoods for people in Ninh Thuan province. The data is based on actual survey of the project " Specific policies and mechanism to support to Thuan Nam and Ninh Hai, Ninh Thuan where building nuclear power plants" of the advisory group for the Ninh Thuan province, in which the author of this paper is a member.

Methods:

Qualitative and quantitative analysis methods with primary and secondary data collected from the reality surveys were used to analyse and assess the solutions for ensuring sustainable livelihood for people when land acquisition for building nuclear power plants in Ninh Thuan, Vietnam. In addition, the PRA method and reality survey was added to analyse the impact of building the nuclear power plants on the people living on the affected areas and the policies and special mechanism supporting for them to live on.

Results:

1. The impact of land acquisition to build nuclear power plants on the sustainable livelihoods of the people in Ninh Hai and Thuan Nam district, Ninh Thuan province

Development of nuclear power plants is inevitable, in the sustainable development of every country in the world. Because nuclear power is cheaper than electricity produced from other sources of fuels; Nuclear power energy is environmentally friendly, with emissions of CO₂ and greenhouse gases in the lowest electric energy; Nuclear power has high requirements on the safety of construction and operation. In particular, nuclear power is the solution to meet the rising electricity demand as Vietnam entered the stage of accelerated industrialization and modernization.

In Vietnam, the place chosen to built nuclear power plants is in Vinh Truong 1, Phuoc Dinh commune, Thuan Nam , Ninh Thuan with a total land area of 540 hectares has recovered including isolated areas . Another one is located in Thai an Village, Vinh Hai commune, Ninh Hai district with land area of 550 hectares recovery including isolated areas. The construction of nuclear power plants in two districts besides the positive impact, also have a negative impact on the lives of people living there. A lot of problems arising such as loss of productive land, unemployment, shrinking production, difficulty in consumption of agricultural products and loss of income. Most of the comments agreed that loss of productive land is strongly effective on the

sustainable livelihoods for the people living there.

1.1 . Considering in the range of 2 districts generally.

The land quality and condition in these districts is very good and suitable for agricultural production with high economic value products such as grapes , onions , garlic and other agricultural products. Agricultural land is an important source of livelihood for resettlers and agricultural producers. A large of agricultural land area are acquired for building the nuclear power plants affecting seriously on the people living. The declining in the production land area and quality results in the decline in the income from agricultural production. According to the data surveyed, the average income from agricultural production of the households in the area , mainly from growing onions and garlic is 13 million /acre/ season; 2 seasons per year , with production land area average of 3-4 acres / household. Therefore, total income of a household is 80-100 million / year. After resettlement, land production fell only 1.5 – 2 acres / household, their income will decrease by more than a half , to about 30 - 40 million / year / household .

Regarding aquaculture and fishing: Thuan Nam and Ninh Hai are coastal districts, so aquaculture and fishing are quite developed. In Thuan Nam district , exploiting force developed rapidly, the scale vessels growing , gradually expanding offshore fishing. Currently implementing projects to upgrade Ca Na port scale type 400 CV 1,200 ships anchored out at a total investment of 36 billion. Fishing was increasingly developed in two districts , bring high revenues and relatively stable for people living in two districts. Thus, fishing is an activity quite sustainable livelihoods for Ninh Hai and Thuan Nam. However, the construction of nuclear power plants, require far from 30 km will narrow the fishing grounds in the two districts, the livelihoods of fishermen will be affected seriously.

On the other hand, the non- agricultural production sector, such as industry, handicrafts, construction and services will be also affected. Therefore, special mechanism and policy are actually needed to create more jobs and increasing income for people in two districts.

**Table 1 : Income of agricultural households
at Ca Na (Thuan Nam) and Thanh Hai (Ninh Hai)**

Unit: Billion dong

TT	Criteria	Highest	Lowest	Medium
	Average income of household surveyed	2.000,00	- 155,00	302,93
1	Income from handicraft	1.000,00	- 175,00	182,55
2	Income from livestock	70,00	-10,00	0,90
3	Income from seafood processing industry	2.000,00	0,00	105,35
4	Income from other production activities	10,00	0,00	0,13

Source: From the survey of research group.

1.2. For people whose land is directly acquired

- The impact on the livelihoods of resettlement people: When agricultural land acquisition, Vinh Hai Commune has arranged a resettlement areas with area 318.84 hectares for 399 farmers lost their land . However, land resettlement worse quality. In Phuoc Dinh commune, the total area of agricultural land acquired is quite large, in which agricultural production land is revoked 448.50 hectares, forest land is 4.89 ha, aquaculture land is 109.85 ha. Its very difficult for the households who were compensated to find land for resettlement, therefore, career changing issues will be extremely difficult, especially for older, low levels of education workers. Among the households surveyed , the proportion of household have primary education in Vinh Hai commune

is 45% and in Phuoc Dinh is 75 % . In the 2 communes not yet headed up to the college level or higher . Of the 80 households eligible for the survey, the proportion of household employed in agriculture is 82.5 % Vinh Hai commune , Phuoc Dinh commune is 45 % .

Since the vast majority of households live on agriculture production, their life were seriously affected when land aquired. Without any mechanisms and policy supporting, sooner or later in time, these households will also become poor and become a burden to the society.

Impact on income of the people whose land is aquired: Most farmers whose land is recovered whether residential or agricultural land will receive an amount of compensation. According to calculations in migration projects for resettlement, with the amount of compensation and assistance is 1408.764 billion dong, the number of households whose land is recovered as 1,435 households, the average household size has recovered land received nearly 1 billion currency compensation , support and resettlement help transform careers and stable life. With the relocation, the construction of housing is needed and that the farmers have to spend money to build. However, the issue of using money to support career changing often arise negative issues , not used for the right purpose. This is the risk, and in many cases is the negative impact of land acquisition to sustainable livelihoods of farmers

According to the survey results, about 50 % of the households surveyed intend to use the money compensated to fund their children to school ; 47.5 % of the households surveyed intend to use this money to purchase luxury items . Only 15 % of households intend to buy more land for production and 19% of households invest in job transition training; 30 % of households intend to use this money to invest in finding a new job. These result in the ability to quickly spend all the land acquisition compensation for some households and make difficulty for the local government to set up policies for people living there and the sustainable livelihoods of the people whose land is aquired will be affected.

2. Proposing mechanisms and policies to support sustainable livelihoods for the people whose land aquired to build two nuclear power plants in Ninh Thuan.

From surveys and research experience of the countries of the mechanism, policy support for the construction of nuclear power plants , we would like to suggest a number of mechanisms and policies to support and ensure sustainable livelihood for people living in the affected areas in Thuan nam and Ninh Hai, Ninh Thuan as follow:

2.1. Mechanisms and policies on land compensation prices aquired to build two nuclear power plants in Thuan Nam and Ninh Hai.

To ensure the livelihood of the people have acquired land to build nuclear plants, the Government issued Decision 1504 / QD - TTg dated 08/28/2013. However, in the Decision the land compensation price according to the price of the land price frame in Ninh Thuan province is very low; no discrimination and eliminating the land speculators and not compensation for the land rented for public benefits caused many questions and potential complaints from people whose land is aquired. In addition, the construction site of the nuclear power plants are located in the communes having difficult economic conditions, then their life are more seriously affected than the other areas. From this situation , we propose:

Firstly, increase by 25% in the price of land applied in compensation under Decision 1504 / QD - TTg closing to the land use right price in the market.

Secondly, distinguish clearly peoply who will receive compensation from land aquisition to remove land speculators. Accordingly, the portion of compensation will be paid directly to the person entitled to use the land, who have the certificate to prove the legitimacy of their right to use the land , who are living on the aquired land.

Thirdly, households and individuals leasing public land for agricultural production are also entitled to receive support as the cases stipulated in Clause 3, Article 35 of Decision 1504 / QD – TTg by 80 % of agricultural land price 20% of the price of the remaining land is allowed to leave the local additional funds in the public interest.

With the proposes suggested above, the amount of money increase that the people whose land is recovered benefit when prices rise 25 % is 60.061 billion dong, the average household will received 41.85 million;. This is quite a large amount for households whose land is recovered. The amount added will significantly contribute to ensure stable income and living standards of the people whose land is aquired in Phuoc Dinh and Vinh Hai.

2.2. Adjustment mechanisms and policies on compensation, support and resettlement under Decision 1504 / QD – TTg.

Besides the unreasonable problems of land, the support for changing career under the Decision 1504 / QD - TTg also as low as 2 times the price of agricultural land, while Decree 69/2009 / ND-CP is from 1 , 5-5 times. The fuel assistance , textbooks , free school fees and contributions to build schools in the 3 years since the land acquisition for irrigation projects , hydropower supported by the Decision 34/2010 / QD-TTg dated 8/4/2010 was in effect , but not expressed in Decision 1054.

First, increase support for career changing and job creation from 2 times to 5 times compare to the price of agricultural land - the maximum level stipulated in Decree 69/2009 / ND - CP dated 13 / 8/2009 of the Government to ensure that the people whose land aquired can change their job.

Secondly, support fuel for one year for households in Vinh Hai Phuoc Dinh equivalent to 3 liters / person / month at the rate stipulated in Paragraph 5 , Article 10 of Decision No. 34/2010 / QD - TTg of the Prime Minister.

Thirdly, additional support for mental damages to households whose land is recovered . The amount is 10 million / household , the total amount of support for 1,535 households whose land , including agricultural land and residential land is 15.35 billion, on average per year is 5,117 billion.

Fourth, children from households whose land aquired will recieved grants for textbooks, tuition fee exemption for 1 year and money to build schools in 3 years. With nearly 2,000 pupils in the commune levels , total amount supporting is about 3 billion dong.

With the above suggestions, total grants of up to 654.25 billion, which is also quite large funds to contribute to ensuring a sustainable livelihood for the people whose land directly aquired.

2.3. Policy incentive allowances for civil ervants and employees working in Thuan Nam and Ninh Hai.

Thuan Nam and Ninh Hai, including Phuoc Dinh and Vinh Hai apply staff allowances under Decree 116 / QD - TTg- dated 24/12/2010. However, since rearranging objects and poor communes under the new criteria , both districts are not included in the district area, poor communes should not applied the preferential allowances. Especially since district establishment in Thuan Nam, the Government issued decision 466 / QD - TTg supporting for officers work in the district. Whereby officials and employees working in Thuan Nam will have living allowance initially , gasoline, and land. However, the life of officers and employees in the province still faces many difficulties. To attract civil servants working in the area, would suggest: First, apply the policy for attractive allowances and seniority allowances for officials and public servants, officers, professional soldiers , defense employees work in Thuan Nam district and Vinh Hai commune , Ninh Hai district .

Incentive allowances are equal to 70 % of their respective current monthly wage . Seniority allowances by 0.5 compared to the minimum wage applied to people working full time for 5 years and under 10 years , with 0.7 for the actual work between full 10 years and under 15 years and for people working for 15 years or more. Officers, employees, officers, professional soldiers, defense employees o work at Phuoc Dinh commune is attractive allowances equal to 100 % of their respective current monthly salary .

Second, support petrol and land for officers, civil servants and, professional soldier, defense employees working in Thuan Nam district. The amount is 300,000 VND / person / month and 150 m² / household .

With subsidies the total amount supporting is 57.821 billion dong/ year and 173.463 billion dong in 3 years

2.4.Policies and mechanisms to support the development and production transformation

- Policies to support the restoration and protection of the coastal fores , create perimeter protection of power plants , agricultural activities , forestry , fisheries and landscaping to attract tourism activities . Specific:

(1) Increasing investment in afforestation rate in order to balance the investment plan under Decision No. 60/2010 / QD - TTg of September 30, 2010 from 15 million / ha to 25 million / ha . Because , the actual costs have increased over time and conditions of the plantation and Ninh Thuan Nam Hai is very difficult because the terrain and weather and climate

(2) raise the level of protection contracts for protection forests and special-use forests to households , individuals and rural communities of the forest management units , from 0.2 million / ha according to Decision No. 60 / 2010 / QD - TTg of September 30, 2010 to 0.3 million / ha .

(3) Improving the project management of protective forests, special-use 10% of the total investment of the State budget for the project , according to Decision No. 60/2010 / QD - TTg of September 30 years 2010 to 12 % , of which the central branch increased from 0.7% to 1.0 % , from 1.3 % to 2.0 provincial % , all projects at grassroots level from 8.0 % to 9 ,

With the policy mechanisms, the total investment is 1,590 hectares balance for the planning of Thuan Nam and Ninh Hai District 2020 is 39.75 billion dong. The difference is due to changes in mechanism

- Policy support conversion grounds : Establishing safety at sea corridor for nuclear power plants have narrow grounds must lead to change from inshore to offshore fishing .

To enforce that matter, need to support fishermen reformation boat building large capacity, training captain and the mechanic \, the operating crew on boats and fishing access . Specific

1) Supported 100 % loan interest rate for the first 5 years of boadbuilding ; 50 % of the loan interest rate in the next 5 years , the interest rate applied 1.5 % / year . Duration of the loan is 10 years. The maximum loan rates by 100 % of ships, depending on the conditions the borrower , with the evaluation of local governments and credit institutions . (2) Support credit and the interest rate subsidy to buy fishing gear , the additional equipment on ships serving offshore fishing operations at the rate of 1.5 % / year for 5 years . (3) To support the fuel , with 50 million / year / vessel . 4) To support the vocational training qualifications meet the requirements of offshore fishing for the captain and the chief engineer ; the support of 1.5 million / person ; execution time to the end of 2018. (5) To support 50 % of hull insurance , accident insurance 100 % for the crew , with 100 million / boat ; Total assistance on interest rates , insurance , training , support for activities of petroleum ... offshore fishing is 495.184 billion. The funds support shipbuilding and other forms of assistance such as insurance, interest rate subsidy to buy fishing gear, fuel, equipment ... shall be deducted from the central budget through interest subsidies of the State Bank for commercial banks ,

Interest rate support policy aquaculture, fish processing, seafood and cattle breeding : These activities bring greater income for people in Ninh Hai and Thuan Nam district and also develop potentially. Therefore, the need to expand these activities by various measures, including financial support through interest rate support . Specifically : Interest subsidy and improve lending procedures for households in Thuan Nam and Ninh Hai for development of cattle breeding , aquaculture and seafood processing ; preferential rate of 3.0% / year; support term interest rates from 1-2 years , depending on the duration of the production. Total support of 30 dong billion to support lending rates in aquaculture, fish processing, seafood and 14.4 billion to support the expansion of the interest rate raising cattle .

Policy supporting power prices for people living in two districts : Most countries with nuclear power plants have implemented policies to support the price of electricity. On the other hand, Thuan Nam and Ninh Hai district are the revolutionary areas with many ethnic minorities and having difficulty in living conditions . With this context, the proposal supported by 30% electricity price under the current electricity price of Vietnam Electricity for households in two districts. Power consumption support is calculated according to the average electricity consumption per capita according to the district and the actual electricity price on average .

Table 2 : Summary of resources to support implementation of the specific policy mechanisms for 2 Ninh Thuan Nam Hai

Content	Total support (billion dong)
Adjustment mechanisms and policies on land aquisite to build nuclear power plant	72,974
Adjustment mechanisms and policies to support the livelihood of farmers whose land aquisitioned	654,250
Support mechanisms and policies for personnel salary budget	173,163
Mechanisms and policies to support forestry development	40,716
Mechanisms and policies to support off-shore fishing , fishing conversion	495,184
Loan support aquaculture, fish processing , seafood	30,000
Support livestock development loans cattle	14,400
Support price of electricity for residents in 2 districts	168,611
Total	1.6320,058

Source: calculated by research group.

Conclusion:

Construction of nuclear power plant in Ninh Thuan Nam Hai , Ninh Thuan is the right decisio . However, due to the characteristics of nuclear power plants, the construction will impact on the sustainable livelihoods of local people, hence the need to have specific mechanisms and policies to support. If the mechanisms , specific policies that are accepted and implemented, certainly sustainable livelihoods of the people of two districts of Ninh Thuan Nam Hai, Ninh Thuan province - the construction of nuclear power plants will be ensure, contribute to the sustainable development of agriculture and rural areas in particular, and of the two districts of Ninh Thuan province in general.

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