The Probability to Memorize and Understand Textbook Information: Socioeconomic Class as the Predictor for Cognitive Processing Strategies in Pakistani Education System

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Abstract:

The economic condition and social position of parents bestow new-borns privileged or deprived status in stratified societies. Parents' profession, education, income and even castes in such societies outline the future of children. Different educational outcomes and differences in human development are explainable in perspective of socio-economic differences. The learning outcomes directly depend on students' cognitive processing strategies. This study has the goal to determine the predictability of students' cognitive processing strategies by their socio-economic classes. Survey research design was adopted and 197 students were conveniently selected from the population of secondary school science students. Linear regression was used to test the predictor power of socio-economic status in determining students' cognitive processing strategies. There was a significant decrease in use of deep strategies with decrease in socio-economic status. Conversely, there was an increase in memorization strategies with decrease in socio-economic status. This situation was consequence of teaching approaches, nature of the examination system and differences in parenting support provided by parents of different social classes. There should be interventions planned to help out these lower socio-economic group students from being entrapped in recall and memorization rather than getting an understanding of content.

Keywords: Deep Learning Strategies, Memorization, Rehearsal, Parents Education, Parents Profession, Social Class Reproduction

I. Introduction

All sorts of behaviours and decisions that shape our lives have nuances of places we live and the people we live with. Although, nature and nurture are key determinants of different kinds of human behaviour (Bjorklund & Salvanes, 2011). However, much of human behaviours are indebted by the people around, financial and cultural resources in hand. In other words, someone's social class might supress or sharpen up someone' natural abilities and someone's failures and successes in someone's courses of life can be explained and justified being from a particular socio-economic class or social section of society (American Psychological Association, 2007; Bjorklund & Salvanes, 2011). Social

class is usually calculated in reference to the family profession, education and income in social sciences (Ash, 2004; Berzofsky *et al.*, 2014; Galobardes *et al.*, 2007; Khairnar *et al.*, 2017; Oakes & Rossi, 2003). These three indices are used to estimate the individuals' rights and privileges to use different resources in the community and society (Oakes & Andrade, 2017; Psaki *et al.*, 2014). In any society, social class indicates anyone's social and economic status (Australian Bureau of Statistics, 2011). In different social class theories, social class opens ways for social discrimination, exploitation and domination, power, intergenerational transmissions and social mobility, and opportunity hoarding and social closure (McCartney *et al.*, 2018),

However, Education is the function of all societies which has twofold powers; it guarantees the social class mobility on one hand and on the other hand, it can be used as a tool for social class reproduction in any society (McCartney *et al.*, 2018; Oakes & Rossi, 2003). Social class as a reference for having economic resources within any society; is quantified in relation to someone's interaction to different society institutions such as educational institutions, political and financial institutions (Butler *et al.*, 2018). Briefly, it is the index of someone's quality of life someone enjoys in any society.

Our social and cultural capital instrumented as our social class defines our educational paths (Vergolini & Vlach, 2017), educational aspirations (Fischer *et al.*, 2019; Tranter, 2012), education intentions (Perry & Southwell, 2014), and even what we learn from the process of education (Bellibas, 2016; Chachashvili-Bolotin *et al.*, 2016; Thiel, 2012). Different sorts of educational decisions; such as, what students will study? How many years of education they will get? How confidently they will acquire higher education? All these question to varying degree appeared to be relate to someone's social class (Butler & Le, 2018; Dilnot, 2016; Magueta *et al.*, 2015; Tomaszewski *et al.*, 2017).

Educational systems in different countries; even in the countries which claim that they provide equal educational opportunities to different sections of the society such as Australia, United kingdom , Turkey ,Spain , Italy, seems to favour certain sections of the society by limiting the access of students from disadvantage sections of the society to highly prestige and higher earning professional institutions of the society (Bellibas, 2016; Fernández Sanjurjo *et al.*, 2018; Harrison, 2013; Mcmaster, 2017; Perry & Southwell, 2014; Tomaszewski *et al.*, 2017; Vergolini & Vlach, 2017). The students' enrolment into highly prestige and high earning professional institutions depend and relate to students' social class, and evidently, students from more disadvantaged social classes have lower probability of enrolment, succeed and even sit in entry level examinations of high earning, high-prestige institution (Puddey & Mercer, 2013). The influence of social class in education is more obvious and eminent in developing countries such as Kenya, Tanzania and Namibia (Smith & Barrett, 2011).

Students from low socio-economic classes usually choose vocational subjects at secondary school level. This choice is for income safety, and eventually, these choices limit their further choices for further education (Dilnot, 2016). There is an increase in global receptiveness for vocational education subjects at secondary school level, and low socio-economic schools usually have the economic, social and cultural resources matching to localities and populations they serve, consequently, students of these low socio-economic areas choose vocational subjects at secondary schools level because they think schools prepare them for vocations to have earning safety in life after schooling (Tranter,

2012). Students of higher and middle socio-economic groups opt for top of the hierarchy of curriculum subject such as advance math, physical sciences, and social sciences (Fullarton *et al.*, 2003). Lower socio-economic background students are less likely to study subjects such as history, literature, foreign languages, mathematics and pure sciences and social science, and thus indirectly, there scope to the study academic subjects helpful in entry into university education is minimised (Perry & Southwell, 2014).

Although, choice of subjects, and options offered at pre-university stage can be an explanation for polarized education systems in different developed and developing countries, however, poor academic performance of students from low socio-economic backgrounds is evident and comprehensively reported (Butler & Le, 2018; Butler *et al.*, 2018; Puddey & Mercer, 2013; Smith & Barrett, 2011). (Fischer *et al.*, 2019). English or some other foreign language used as medium of instruction adversely affect the academic performance of students from disadvantaged sections of the society, and low socio-economic students poorly learn second or foreign language in bi-lingual schools (Fernández Sanjurjo *et al.*, 2018). In case of learning sciences, students from disadvantaged socio-economic status face more problems to comply academic learning standards set for science subjects as compared to students of high social classes in the same school (Fernández Sanjurjo *et al.*, 2018). School choice, subject choices and even students' performance is related to their socio-economic backgrounds.

The educational and financial resources of Parents from high and middle socio-economic backgrounds enable them to better guide and support their children in pursuing and choosing their educational paths within and outside the school (Fischer *et al.*, 2019). These parents showed fruitful involvement in child education at home, positive motivational beliefs of engagement in child education, assistance to their children in their education and cooperation with school by positively responding to school demands, school policies, and programs for their child education. These ways have a positive correlation with childs' cognitive, social, and emotional developmental aspects (Hertel & Jude, 2016). Parents' own beliefs about learning shape their children' learning opportunities and learning support at home which cause increase in students' knowledge of language and self-regulation of emotions among students (Chazan-Cohen *et al.*, 2009; Taylor *et al.*, 2004).

In a nutshell, socio-economic background limits equal educational prospects for students of different socio-economic backgrounds; the educational systems and the society institutions safeguard social class reproduction; consequently, the class system cannot be eliminated (Collins *et al.*, 2015). Whatever subjects choice students make, whatever social class they belong, the students' academic and learning outcomes depend on their cognitive processing strategies (Biggs, 1987b; Entwistle & McCune, 2004, 2013; Vermunt & Vermetten, 2004; Weinstein *et al.*, 2010; Weinstein & Meyer, 1991; Winne, 2013). This variable is widely used to explain variance in students learning behaviours and learning outcomes at different educational levels (Biggs *et al.*, 2001; Cano-Garcia & Justicia-Justicia, 1994; Cano & Cardelle-Elawar, 2008; Coertjens *et al.*, 2013; Deming *et al.*, 1994; Donche *et al.*, 2013; Ferla *et al.*, 2009; Gatto, 2010; Hattie & Donoghue, 2016). However, literature lacks consensus over classification and types of cognitive processing strategies, there are differently labelled cognitive processing strategies having almost similar cognitive tactics (Biggs *et al.*, 2001; Vermunt, 1994b).

Different cognitive tactics are grouped into two types: deep, and memorization processing strategies (Biggs *et al.*, 2001; Entwistle *et al.*, 2013) in most models of the cognitive processing strategies (Entwistle *et al.*, 2013; Vermunt, 1998; Weinstein *et al.*, 2010). Cognitive tactics such as structuring, relating, and critical processing make deep cognitive processing strategies; recall, repetitions remembering or memorizing cognitive tactics are components of memorization processing strategies (Vermunt & Vermetten, 2004). Remembering and memorization tactics are associated with surface learning and surface approach (Marton & Saljo, 2005), whereas deep strategies are desirable because of their positive association to learning outcomes and with ideal personal attributes of learning (Vermunt & Verloop, 1999; Vermunt & Vermetten, 2004). Deep cognitive processing strategies assist students to acquire in-depth understanding of textbook content (Entwistle, 2001) as compared to strategies of memorization and rehearsal, which have association to poor academic performance and academic attainments (Biggs, 1987a; Marton & Saljo, 2005). Memorization strategies usually indicate extrinsic motivation, surface learning outcomes and an absence of regulation of learning (Chamorro-Premuzic & Furnham, 2008; Simons *et al.*, 2004; Swee-Choo *et al.*, 2012; Vermunt, 2005).

Although, there is overwhelming evidence about an impact of socio-economic status on students' school achievements in different studies but literature is limited on factors that cause differences in achievements among students of low and high socio-economic classes (Bellibas, 2016). Massive literature exists on parents' role in students' performance, subjects choice, choice of educational paths in relation to different socio-economic classes, however, there are limited studies, which explored students personal attributes that effects their learning outcomes and academic performance such as learning styles, regulation of learning, learning orientation in relation to their socio-economic status. The academic performance is very much dependent on students learning strategies (Phan, 2010; Richardson, 1994; Rosander & Bäckström, 2012).

There are indications that Pakistani secondary public school students use memorization cognitive processing strategies (Malik, 2012). Public schools and non-elite private schools fulfill educational aspiration of students form upper middle, middle, upper lower and lower social classes (Alderman *et al.*, 2001; Andrabi *et al.*, 2002; Andrabi *et al.*, 2005). However, there exists very little knowledge about the variance in the use of cognitive processing strategies across students of different social classes in Pakistan.

The current study has explored influence of students' socio-economic backgrounds on their cognitive processing strategies. Therefore the current study was intended to find the impact of students socio-economic classes on their cognitive processing strategies. .At secondary school level, the surface and deep cognitive processing strategies are more obvious (Entwistle *et al.*, 2013; Vermunt, 1998; Weinstein *et al.*, 2010). Therefore, the study was limited to only memorization and deep strategies.

The study was intended to test following hypotheses:
i.   There will be no significant prediction of an average use of memorization cognitive processing strategies by socio-economic classes of Pakistani Public school students.
ii. There will be no significant prediction of an average use of deep cognitive processing strategies by socio-economic classes of Pakistani Public school students.

II. Theoretical Underpinnings

Our understanding of cultural differences can help us to understand differences in students' learning behaviours across different nations (Nesbit, 2005). Asian and Western cultures propagate different conceptions of learning (Biemans & Van Mil, 2008; Biggs, 1998), which yield dissimilar patterns among students to use cognitive processing strategies (Kember, 1996). Western culture promote a clear differentiation between poor performaing students and high perofrming students; poor performing students heavily use memorization, and high performing use deep cognitive processing strategies (Vermunt & Verloop, 2000). In Asia, there is dissonant situation; high performing students use both memorization and deep strategies, whereas low performers only use memorization cognitive processing strategies (Kember, 2000).

Roots of these cultural differences resdie in students' conceptions of learning, their level of self-regulation and awareness of learning strategies (Li *et al.*, 2016). Within a culture, the education system might be a mean to reproduce social classes in the society (Collins *et al.*, 2015; Hoadley, 2007), and we suppose students' learning behaviours might be confirmatory to their socio-economic classes. Socio-economic class provides a framework to identify and explain social, economic inequalities, exploitations and life chances in any social structure of the society (Wright, 2003). Briefly, understanding of structure of any society can provide a good explanation for students' personal learning preferences and learning behaviours in schools (Fernández Sanjurjo *et al.*, 2018; Fischer *et al.*, 2019). Every social group and social class has different cognitive, financial and social resources to influence, guide and strengthen educational process of children (Hartas, 2015; Hollingworth *et al.*, 2011; Mcmaster, 2017). Consequently, variance in parenting styles, and child access to home and family resources cause variance in learning behaviours (Butler & Le, 2018; Butler *et al.*, 2018; Hertel & Jude, 2016; Smith & Barrett, 2011). Around the world, poor performance and learning difficulties are more reported for students of low socio-economic classes (Collins *et al.*, 2015; Fernández Sanjurjo *et al.*, 2018; Puddey & Mercer, 2013). Cognitive processing strategies being directly associated with learning outcome (Biggs *et al.*, 2001; Biggs, 1987b; Vercellone-Smith *et al.*, 2012; Vermunt & Vermetten, 2004) can provide a direction to use socio-economic classes to predict cognitive processing strategies.

In sub-continent, Kuppuswamy scale is widely used for relative determination of social classes (Rathod & Ningshen, 2012). According to Kuppuswamy scale, scores of family head education, the family head profession and total monthly income of the family was summed up to classify different families into five socio-economic classes: upper class, upper middle class, middle class, lower middle class and lower class (Khairnar *et al.*, 2017; Shaikh & Pathak, 2017). A relative position of income as a measure of socio-economic class is criticised by some social scientists because of inflation and frequent changes in income (Mishra & Singh, 2003; Payne, 2013).

III. Backdrop of the Study

In sub-continent, hereditary occupations determined socio-economic classes (Ibbetson, 1916). Although, non-traditional occupations emerged in Pakistan with industrialization (Weiss, 1991), but three parallel systems of education uphold stratification of society (Andrabi *et al.*, 2002; Andrabi *et al.*, 2005; Andrabi *et al.*, 2006; Malik, 2012) by divulging three different types of teaching approaches, syllabi, qualification and training of teachers and learning outcomes through private schools, public schools and madrassa

system (Malik, 2012; Rahman, 2004). Madrassas, public and non-elite private schools serve children of middle and low social classes, however, teachers perceive students and their learning difficulties differently for students of different social classes (Andrabi *et al.*, 2006; Malik, 2012; Tamim *et al.*, 2015; Tamim & Tariq, 2015).

IV. Materials and Methods
A. Population and Sample
Survey type of research was selected in this study. The secondary school science students of Pakistani public schools were the population of the study. Two hundred and twenty questionnaires were distributed among students of different public schools in the Bahawalnagar city. The Bahawalnagar city is district headquarter in Bahawalpur division in southern Punjab near eastern border with India. Two hundred and five questionnaires were returned. After screening, 197 completed questionnaires deemed fit for data analysis.

B. Measurement of Variables
The section of cognitive processing strategies in Vermunt's measure of learning patterns (Vermunt, 1994a) in its adapted and modified form in Urdu language (Ali, 2016) was used to measure students' cognitive processing strategies. The self-reported statements were used to measure two types of cognitive processing strategies; memorization and deep cognitive processing strategies. The information about parental profession and education was obtained from students who reported their parents' profession and education. Kuppuswami *et al.* (1981) indices of socio-economic status is frequently used in south Asia (Saif-Ur-Rahman *et al.*, 2018). It was used in its modified and revised form (Shaikh & Pathak, 2017) in this study. Originally this Kuppuswami revised measure is based on family head income, education and occupation (Khairnar *et al.*, 2017). In this study, it was further modified according to the nature of population and data collected. The parents' income was not included in the composite relative measure of social class calculation in this study because of two reasons: the relative status of income in the calculation of different social classes is criticised because of rapid inflation or rapid changes in income (Mishra & Singh, 2003), and relative position becomes questionable after few years (Payne, 2013). The second reason was linked to our respondents, who were students, and they may not know the exact income and economic resources of their families.

The original Kuppuswami *et al.* (1981) social class scale ignored education of the mother in calculating the educational background of the family for determination of socio-economic class (Khairnar *et al.*, 2017; Rathod & Ningshen, 2012). The positive role of mother education in child education is very obvious (Hartas, 2015). Therefore, we assign scores to mother and father education according to Kuppuswami et al. 1981 revised scale and divided this sum by two to include mean educational scores of family for determining students' social class. The points or scores of income included in the social class boundaries mentioned by (Shaikh & Pathak, 2017) were deducted to make it applicable to a composite of two indices; parents education and profession in our study.

V. Data Analysis
Linear regression was used to establish the predictor role of students' social classes in their behaviour to use different cognitive processing strategies. The different dummy variables' block for four different social classes; upper middle class, lower middle class, upper lower class, and lower class was entered to predict the students' cognitive processing strategies. The dummy variable upper class was excluded from the analysis because no

respondent was in this social class. Upper middle class was taken as a reference category to explain impacts of other three dummy variables of social classes on cognitive processing strategies.

A. Results
Memorization Cognitive Processing Strategies and Socio-Economic Class

Table 2 shows tested model was significant $F(3,172)=2.90$, $p=.037$, and social class is good predictor for the prevalence of memorization cognitive processing strategies in students. Furthermore, model summary (Table 1) shows that 3.2 percent variance in students' memorization strategies was because of their social classes. The null hypothesis, " there will be no significant prediction of an average use of memorization cognitive processing strategies by socio-economic classes of Pakistani Public school students" was rejected.

Table 1: Regression Model Summary Memorization strategies and Socio-economic Class

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.219 a	.048	.032	2.76687	1.872

a. Predictors: (Constant), Lower class, Upper Lower class, Lower Middle class

b. Dependent Variable: Use of memorization strategies

Table 2: ANOVA Regression Model Summary Memorization strategies and Socio-economic class

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.601	3	22.200	2.900	.037[b]
	Residual	1316.757	172	7.656		
	Total	1383.358	175			

a. Dependent Variable: Use of memorization strategies

b. Predictors: (Constant), Lower class, Upper Lower class, Lower Middle class

The regression co-efficient values in Table 3 shows significant slope betas for lower middle class (0.99, p=0.046), upper lower class (1.254, p=.033) and for lower class (3.154, p=.029) with constant Y intercept reference category (upper middle class) 13.096.

Table 3: Coefficients[a] Regression Model Socio-economic class and Memorization strategies

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.096	.384		34.132	.000
	Lower Middle class	.991	.493	.176	2.011	.046
	Upper Lower class	1.254	.582	.187	2.155	.033
	Lower class	3.154	1.436	.168	2.197	.029

a. Dependent Variable: Use of memorization strategies

The regression model would be as follows:

The predicted mean score on memorization scale for students who belonged to upper middle class (reference category) is as follows:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$
$Y = 13.096 + 0.991(0) + 1.254(0) + 3.154(0)$
$Y = 13.096$

The lower middle class students' predicted mean score on memorization scale is as follows:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$
$Y = 13.096 + 0.991(1) + 1.254(0) + 3.154(0)$
$Y = 13.096 + 0.991 = 13.1951$

The predicted mean score on the memorization scale for upper lower class students is below:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$
$Y = 13.096 + 0.991(0) + 1.254(0) + 3.154(1)$
$Y = 13.096 + 1.254 = 14.35$

The lower class predicted mean score on memorization in students is in a following degree:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$
$Y = 13.096 + 0.991(0) + 1.254(0) + 3.154(1)$
$Y = 13.096 + 3.154 = 16.25$

Deep Cognitive Processing Strategies and Socio-Economic Class

The tested model for deep memorization strategies is significant with $F_{(3, 169)} = 6.485$, $p = .000$ (Table 5), and 8.7 percent variance in use of deep cognitive processing strategies is explained by dummy variables of different social classes (Table 4). Thus the null hypothesis "there will be no significant prediction of an average use of deep cognitive processing strategies by socio-economic classes of Pakistani Public school students" is rejected.

Table 4 : Regression Model Summary Deep strategies and Socio-economic class

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.321[a]	.103	.087	3.21647	1.371
a. Predictors: (Constant), Lower class, Upper Lower class, Lower Middle class					
b. Dependent Variable: Use of deep strategies					

Table 5: ANOVA[a] Regression Model Memorization strategies and Socio-economic class

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	201.283	3	67.094	6.485	.000[b]
1	Residual	1748.416	169	10.346		
	Total	1949.699	172			
a. Dependent Variable: Use of Deep strategies						
b. Predictors: (Constant), Lower class, Upper Lower class, Lower Middle class						

The slope beta for different social classes is; lower middle class =-1.395, p=0.018, upper lower class= -2.989, p=.000, lower class =-2.056, p=.221, constant (reference category) upper middle class =13.306 (Table 6).

Table 6: Coefficientsª Regression Model Socio-economic class and Deep strategies

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.306	.459		28.958	.000
	Lower Middle class	-1.395	.585	-.207	-2.385	.018
	Upper Lower class	-2.989	.681	-.379	-4.391	.000
	Lower class	-2.056	1.673	-.092	-1.229	.221
a. Dependent Variable: Use of Deep strategies						

The regression model for the significant beta slopes would be as follows:

The mean deep cognitive processing score predicted for upper middle class students is:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$
$Y = 13.306 - 1.395(0) - 2.989(0) - 2.056(0)$
$Y = 13.306$

The students from lower middle class are expected to have mean score on the deep cognitive processing strategies scale as below:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$
$Y = 13.306 - 1.395(1) - 2.989(0) - 2.056(0)$
$Y = 13.306 - 1.395 = 11.911$

The expected mean score on deep cognitive processing strategies for students having upper lower class background is as follows:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$
$Y = 13.306 - 1.395(0) - 2.989(1) - 2.056(0)$
$Y = 13.306 - 2.989 = 10.317$

The predicted mean score on deep cognitive processing strategies scale for the students of lower class is insignificant and is as follows:

$Y = a + b_1X_1 + b_2X_2 + b_3X_3$
$Y = 13.306 - 1.395(1) - 2.989(0) - 2.056(1)$
$Y = 13.306 - 2.056 = 11.25$

B. Overall Results

The memorization and deep cognitive processing strategies exist in almost same degree in upper middle class students. With decrease in social class status the differences in use of these two strategies increases. The deep cognitive processing strategies decreases and memorization cognitive processing strategies increases with decrease in socio-

economic backgrounds. It is predicted high use of deep strategies and low use of memorization in high social class students. Inversely, the model predicts low use of deep strategies and high use of memorization in low social class students.

VI. Discussion and Conclusion

The current study established the relationship between students' cognitive processing strategies and their socio-economic classes. An obvious trend exists in use of cognitive processing strategies among students of different socio-economic classes. Students of upper lower and lower socio-economic classes appeared to use more memorization strategies than students of lower middle and upper middle classes. Students of Low socio-economic class inclined towards memorization more than high socio-economic class students. Likewise, there exists probability that Pakistani students of high socio-economic classes will use deep strategies more than students of low socio-economic class. Both cognitive processing strategies were present in almost same amount in higher middle class students. Coexistence of both memorization and deep cognitive processing strategies equally in students of upper middle class affirmed prior findings about Asian students (Ali, 2016; Biggs, 1998; Waters & Andreassen, 1983).

Biggs (1998) found higher performing Chinese students using both memorization and the deep cognitive processing strategies; Chinese students understood textbook information in depth, and later memorized it because they considered understanding of content as somewhat associated to recall. The similar situation to Biggs (1998) view, Ali *et al.* (2018) explored that Pakistani students have intake of knowledge conceptions of learning at secondary school level; such students preferably use memorization cognitive processing strategies (Vermunt, 2005). The naive epistemological beliefs among Pakistani students (Ali *et al.*, 2016; Bakar *et al.*, 2017) is another reason of memorization (Phan, 2009). Apart from what students think learning is? Nature of culture, medium of instruction, summative or terminal nature of examinations might be an explanation for presence of both dissimilar strategies in higher socio-economic class students (Li, 2005; Marambe *et al.*, 2007; Salovaara, 2005). Students of higher socio-economic class have opted English medium of instruction; probability, they memorize to overcome English language learning issues (Marambe *et al.*, 2007).

Furthermore, internet, laptop and reference books facilitate the use of deep cognitive processing strategies, and low socio-economic class students lack financial resources to access these, finally, they are left with no option except to memorize (Anyon, 1981; Bellibas, 2016; Hatcher, 2000; Hobbs, 2016; Hochschild Jennifer, 2003; Werfhorst Herman *et al.*, 2013). Parents form low socio-economic classes do not guide their children in their learning issues (Fischer *et al.*, 2019). Different parental education, specially mother's education and financial resources of the family cause differences in students' learning of reading, science and math (Hartas, 2015). Higher socio-economic status and autonomous parenting style help students progress to higher learning outcomes in language learning subjects (Butler & Le, 2018; Fernández Sanjurjo *et al.*, 2018). In this way, language problems increase probability to rely on memorization strategies (Marambe *et al.*, 2007), consequently, memorization strategies lead to poor academic performance (Biggs, 1987a; Marton & Saljo, 2005). Presence of high amount of memorization can be the cause of failure for great number of students in examinations from low socio-economic backgrounds (*Punjab Development Statistics*, 2016).

The ways parents engage with and help their children in academic affairs determine children's ways of learning (Hollingworth *et al.*, 2011). Parents beliefs affixed in socio-economic and cultural context define their children's learning opportunities, learning support, learning resources they provide at home to impact children's knowledge of language and self-regulation of emotions (Chazan-Cohen *et al.*, 2009; Taylor *et al.*, 2004). Parents from high socio-economic status have more positive attitude towards school affairs, which effect positively on students' cognitive and emotional development, learning behaviours and academic achievements (Hertel & Jude, 2016). Whereas parents with low socio-economic backgrounds lack information, financial and support resources to better guide, and help their children in educational problems and choices (Fischer *et al.*, 2019).

In Pakistan, students' type of school whether elite private, public or madrassa educate different learning outcomes and learning behaviours (Malik, 2012). Although, sample of the study were studying in public schools. However, the students from high socio-economic classes appear to have an edge over low socioeconomic students (Tamim, 2018). Teachers have students' perceptions nuanced in students' socio-economic backgrounds; this predisposition fallouts in more academic problems for low socio-economic students, and a cause for their undesirable learning behaviours (Dunne & Gazeley, 2008; Hobbs, 2016; Tamim & Tariq, 2015). Public school teachers use traditional lecture methods (Malik, 2012) and there is annual examination system (Malik *et al.*, 2017) both are associated to memorization (Byrne *et al.*, 2010; Byrne *et al.*, 2009; Campbell *et al.*, 2001)

VII. Recommendations

Pakistani Public schools mirror the society they belong. Socio-economic differences play key role in the way different students benefit from public schools. Students from high socio-economic classes study at public schools, and they receive social, financial, educational and moral support from parents to overcome different problems at schools. Students of low socio-economic classes lack most of this support from their parents. At government level and school level, there should be an understanding of different social, cultural and economic problems of disadvantages students. Plans and strategies should be designed to help these students to ensure class mobility rather than class reproduction in the Pakistani society.

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