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# Influence of Teaching Style on Students' Engagement, Curiosity and Exploration in the Classroom

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## Abstract

*Interaction between teachers and students carries immense significance inside classrooms as it contributes to students' learning. The present study aims to explore perceived teaching style (autonomous-supportive and/or controlling) and its correlation with students' engagement, curiosity and exploration in cross-sectional sample of school and university students (N= 402). Three questionnaires were used: Perceived Parental Autonomy Support Scale P-PASS (Mageau, et al., 2015); Student Engagement Instrument (Appleton, Christenson, Kim, & Reschly, 2006); and Curiosity and Exploration Inventory (Kashdan, et al., 2009). The results showed that students simultaneously perceived both teaching styles, that is, Autonomous-supportive and Controlling. However, a significant difference was observed between the score of school students where they found their teachers to be more supportive (t (402)=3.942) and controlling (t (402)=4.774) as compared to university students. Furthermore, there was moderate correlation between perceived autonomy support teaching style with students' engagement (r=.463) as well as curiosity and exploration (r=.318). The results offer an understanding of students' perceptions of teaching style contributing to students' curiosity and motivation to engage in classroom.*

**Keywords:** autonomous-supportive teaching style, controlling teaching style, curiosity and exploration, student engagement

## Introduction

Teachers have a significant part to play in the lives of their students inside the classrooms. Their job is not just to teach, but their teaching style is a reflection of the actions and environment they set in the classrooms. The students' success does not depend solely on the grades being achieved, but how the grades were achieved-whether students took interest or it was learnt just for the sake of it. Hence, the psychological sense of being with others in a comfortable environment is equally vital in the classroom. Teaching styles are significant environmental and social factors in satisfying the need of belongingness in classroom, which consequently influences motivation and performance (Gillet, Vallerand, Amoura, & Baldes, 2010).

Skinner and Belmont (1993) found that a child's perceptions of teachers' involvement can predict the successive engagement in class to a point that when children experience teachers as warm and affectionate, children feel happier and more enthusiastic in classes. Furthermore, relatedness with teachers positively can predict students' self-reported motivation in schools even after taking into account their control beliefs and prior motivation (Wentzel & Caldwell, 1997).

In educational institutions, emphasis is laid on training teachers for effective classroom management as well as effective content delivery. Despite frequent personal development training of teachers, students are still found to be demotivated sitting in the classrooms, resulting in low participation and engagement. While a formal curriculum of the school along with effective content delivery by teachers may foster activities, every classroom is operated by a second hidden curriculum that somehow impacts the students' learning, which includes student teacher interaction in classroom. In order to motivate them, it is crucial to understand their beliefs and perceptions about their teachers in a classroom environment. The insight to their perceptions will give educators an opportunity to understand their students better, hence making learning engaging and meaningful. Meaningful learning will result in encouraging children to bring forth their talents and motivation and to direct their interest in academics productively. The present study aims to explore the relationship dimensions of perceived teaching style with students' engagement, curiosity and exploration in their learning environment. Hence, the research asks the following questions:

1. What kind of teaching style is being perceived inside school and university classrooms?
2. Does perceived teaching style influence students' engagement, curiosity and exploration differently in school and university students?
3. Do perceived teaching styles impact students' engagement, curiosity and exploration in various programs of schools (O levels/Matriculation) and university (Bachelors/Masters/MPhil/PhD)?

## Literature Review

### Influence of a Teaching Style

Students who perceive healthy interaction with teachers are more likely to engage in academics resulting in increased participation and overall academic achievement (Davis, 2003; Klem & Connell, 2004). The student's ability to compete and flourish depends on the classroom structure set up by the teacher. If students have a clear understanding of what is expected of them and their learning tasks and goals are well defined, they are able to regulate their behavior in a better way. This also bolsters student perceptions of competence and high engagement with self-regulated learning strategies (Sierens, Vansteenkiste, Goossens, Soenens & Dochy, 2009).

The environment inside a classroom is critical for students' learning beliefs and behaviors. It impacts not just academics, but also their ability to self-regulate their sense of independence and identity exploration; therefore, students become doubtful about their ability to succeed and they have questions about the value of schoolwork, which may result in reduced academic effort. The environment of the classroom that includes perceived teaching styles becomes extremely crucial in this learning period (Ryan & Patrick, 2001).

### Autonomous-Supportive and Controlling Teaching Style

Autonomy determines that an individual has the right to determine their own behavior. Any teacher that supports this idea, would give students a choice in determining matters like teaching tasks and encourages them to reflect on their own perspectives in the classroom. Researches show a high correlation between student motivation and teacher autonomy support resulting in an increase in self-regulated

learning, time management, enhanced concentration and decrease in anxiety about grades (Benita, Roth, & Deci, 2014; Vansteenkiste, Zhou, Lens, & Soenens, 2005). On the other hand, in a non-cooperative classroom environment where teacher exerts control by inducing guilt or threatening to punish, the students are likely to think over the relationship with teachers rather than focusing on academics and performance.

Allan, Clarke and Jopling (2009) analyzed students' perceptions of effective teaching. Results indicated that teachers with high expectations from students in a supportive environment was found to be perceived by students as a determinant factor for their academic achievement and success in higher education. Students' perceptions of academic load and inappropriate assessments by teachers encouraged shallow learning, whereas perceptions of supportive teaching encouraged positive approaches to academics. Their perceptions of contemporary learning environment was a stronger predictor of learning outcomes at university than prior achievements at school (Lizzio, Wilson, & Simons, 2002).

Ouyang and Scharber (2017) studied the importance of teaching style over the academic years to ease student cohesion and learning. Results suggested that during the initial years of academia, there was a greater need for participation and interaction perceived by teachers, evolving into a more passive role of a facilitator. In fact, the presence of teacher influences student curiosity, engagement and the communication process (Jaggars & Xu, 2016; Ladyshewsky, 2013).

**Student Engagement**

Students' engagement in classroom is viable for their successful future. Researches identify cognitive and affective subtypes of engagement, which correlates with desirable academic and behavioral outcomes (Sinclair, Christenson, & Thurlow, 2005). Cognitive engagement includes control and relevance for work, future goals and intrinsic motivation; whereas, affective engagement includes family support, relationship with teacher and peer (Appleton, Chirstenson, & Furlong, 2008). Essentially, student-teacher interaction strengthens a sense of belongingness and cohesion for engagement in learning. Students seem to give more importance to relations with the teacher, which is a verified predictor of student satisfaction in learning and engagement (Ali & Ahmad, 2011; Lee & Bonk, 2016; Luo, Zhang, & Qi, 2017; Smith, 2016).

### Curiosity and Exploration

Hallihan (2008) suggests that students who have positive teacher relationship would like to come to the class more frequently and associate with reduction in deviant behavior, increased participation, higher achievement in exams and greater chances of graduating. Teachers have a stronger impact on student curiosity to explore and learn than caregivers/peers. When compared with peer relationships, positive teacher relationships are more powerful and have a stronger association with academic engagement (Reio, Marcus, & Sanders-Reio, 2009).

## Methodology

### Participants

The population samples of the research were school and university students from Karachi. Two schools and two universities were considered to collect data where participants were approached individually through convenient sampling method. The sample of the research consisted of 402 participants in which 173 were school students, whereas 229 were university students. Out of 173 school students, 120 belonged to O Levels-Cambridge board of education, whereas 53 were from matric board of education aged between 13 to 17 years. Rest were university students taken from bachelors to PhD programs aged between 19 to 37 years.

### Instruments

Four questionnaires were used to collect the data for the study in hand. The details are given below.

1. Demographics. Age, gender and current enrollment were obtained through self-developed demographics questions.
2. Perceived parental autonomy support scale (P-PASS). Student perceptions of their teacher's autonomy-supportive and controlling style were assessed with the French version of the Perceived Parental Autonomy Support Scale P-PASS (Mageau, et al., 2015), which was adapted to the education context with the authors' permission. The questionnaire consists of 24 items that assess students' perceptions of autonomy-support behaviors on the part of their teachers, such as offering choices within certain limits, explaining reasons behind demands, rules and limits and being aware of accepting and

recognizing student's needs. Whereas psychological controlling behaviors on the part of their teachers consist of threatening to punish students and inducing guilt and encouraging performance goals. All items were scored through a seven point Likert-type scale where higher score indicated high level of perception of teacher being autonomous-supportive or controlling. Internal consistency of the autonomy support and psychological control subscales on part of teachers was satisfactory (αs equal to .88 and .89, respectively). Adaptation of P-PASS has also been found to be valid in other contexts (Moreau & Mageau, 2012).

3. Student engagement instrument. Student Engagement Instrument (Appleton, Christenson, Kim, & Reschly, 2006) is a 35 item self-report instrument designed to measure two subtypes of student enagagement: affective and cognitive. Affective engagement consists of teacher-student relationship, peer support at school and family support for learning whereas cognitive engagement includes control and relevance for school work, future aspirations and goals and intrinsic motivation. All items were scored through a five point Likert-type rating where lower score indicated higher levels of engagement with the exception of items of inrtinsic motivation in cognitive engagement which had reverse scoring. The reliability ranged from α= 77 to α= 92.
4. Curiosity and exploration inventory-II. Curiosity and Exploration Inventory (Kashdan, et al., 2009) is a ten item self-report instrument assessing tendencies of individuals to recognize, pursue and integrate challenging experiences and information. The inventory assesses two factors: Curiosity and exploration. All items were scored through a Likert-type rating where higher score indicated high levels of curiosity and exploration. The reliability for scale of exploration was α= .80 and for curiosity α= .78

**Procedure**

The sample participants were 402 students from two schools and two universities located in Karachi, selected through convenient sampling. School going students were recruited from matric and O Level board of education. Students from grade 9 till grade 11 were selected since they were able to comprehend and attempt the questionnaires easily. Another group of students was recruited from universities who were enrolled in various degree programs from Bachelors to PhD. The age

range of school going student was from 13-17, whereas university students were between 19-37 years of age. Participants were approached in person, consent was taken and confidentiality of their voluntary participation was ensured. The scales with an estimated time of 10-12 minutes were then administered individually, which included adapted version of Perceived Parental Autnomy Support Scale, Student Engagement Instrument and Curiosity and Exploration Inventory-II.

## Findings

Table 1

*Frequency Distribution of Participants' Demographics, N =402*

| | **Profile** | **F** | **Percentage** |
|---|---|---|---|
| Gender | Male | 169 | 42% |
| | Female | 233 | 58% |
| Students | School | 173 | 43% |
| | University | 229 | 57% |
| School (board of education) | Matric | 53 | 31% |
| | Olevels | 120 | 69% |
| University Degree | Bachelors | 155 | 70% |
| | Masters | 46 | 20% |
| | MPhil | 23 | 9.6% |
| | PhD | 5 | 2.2% |

Table 1 presents the frequency distribution of 402 participants' demographics. It shows the demographic profile specifically their gender, students classification, school (board of education), university degree and university faculty. The participants included 169 males (42%) and 233 females (58%). In terms of distribution of students, 173 (43%) belonged to schools and 229 (57%) universities. Out of 173 school students, 53 (31%) were from matric board of education whereas 120 (69%) were from O levels board of education. Among 228 university students, 155 (70%) were enrolled in bachelors degree program, 46 (20%) in masters, 23 (9.6%) in Mphil and 5 (2.2%) in PhD programs respectively.

Table 2
*Mean, Standard Deviation and Bivariate Correlations of Research Variables*

| | | M | SD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|---|
| 1 | Curiosity and Exploration | 34.21 | 6.826 | | | | | |
| 2 | Student Engagement | 76.71 | 18.344 | .209** | .923** | .905** | | |
| 3 | Perceived Autonomy Support | 49.90 | 13.919 | .318** | .432** | .413** | .463** | |
| 4 | Perceived Psychological Control | 41.12 | 12.389 | .085* | -.198** | -.226** | -.231** | .029 |

*p < .05 **p < .01 (1 tailed), N = 402

Table 2 presents mean, standard deviation and research variables correlation and answers research question 1. The result of the correlation analysis determines significant relationship between student engagements versus perceived autonomous support. As shown in the Table 2, Pearson's correlation coefficients point out that perceived autonomy support is moderately correlated with student engagement ($r$ = .463, $p$ < .001) as well as curiosity and exploration ($r$ = .318, $p$ < .001); whereas, perceived psychological control has weak negative correlation with students' engagement ( $r$ = -.231, $p$ < .001). The mean values of perceived autonomous support and perceived psychological control do not indicate a larger difference. The mean scores show that students simultaneously perceive both styles in their teachers.

Table 3
*Independent T-test of School and University Students on the Scores of Curiosity and Exploration, Student Engagement and Perceived Teaching Styles*

| | **Students** | **n** | **M** | **SD** | **T** | **Sig** | **df** |
|---|---|---|---|---|---|---|---|
| Curiosity and Exploration | School | 173 | 34.64 | 6.277 | 1.045 | .29 | 399 |
| | University | 229 | 33.92 | 7.219 | | | |
| Student Engagement | School | 173 | 74.50 | 18.975 | -2.131 | .03 | 399 |
| | University | 229 | 78.43 | 17.733 | | | |
| Perceived Autonomous-Support | School | 173 | 53.01 | 13.593 | 3.942 | .00 | 399 |
| | University | 229 | 47.57 | 13.484 | | | |
| Perceived Psychological Control | School | 173 | 44.45 | 12.893 | 4.744 | .00 | 399 |
| | University | 229 | 38.68 | 11.373 | | | |

Table 3 answers research question 2 and presents independent t-test, which shows statistically insignificant difference in scores of curiosity and exploration of school students ($M$ = 34.64, $SD$ = 6.277) to university students ($M$ = 33.92,

*SD* = 7.219), *t* (402) = 1.045, *p* < .29. However, there is a statistically significant difference in scores of Student Engagement of school students (*M* = 74.50, *SD* = 18.975) to university students (*M* = 78.43, *SD* = 17.733), *t* (402) = -2.131, *p* < .03. Significant difference was seen in autonomous-support construct of perceived teaching style of school students (*M* = 53.01, *SD* = 13.593) and university students (*M* = 47.57, *SD* = 13.484), *t* (402) = 3.942, *p* < .00 and psychological control construct of perceived teaching style in scores of school students (*M* = 44.45, *SD* = 12.893) and university students (*M* = 38.68, *SD* = 11.373), *t* (402) = 4.774, *p* < .00.

Table 4

*One Way ANOVA of School and University Students with Variables of Curiosity and Exploration, Student Engagement and Perceived Teaching Styles, (N = 402)*

| Variable | Group | M | SD | F | Df | sig |
|---|---|---|---|---|---|---|
| Curiosity And Exploration | Matric | 35.85 | 5.21 | .890 | 6, 396 | *p < .05 **p <.01 |
| | Olevel's | 34.10 | 6.64 | | | |
| | Bachelors | 33.79 | 6.94 | | | |
| | Masters | 33.57 | 7.73 | | | |
| | MPhil | 34.96 | 7.43 | | | |
| | PhD | 35.20 | 10.94 | | | |
| Student Engagement | Matric | 67.11 | 15.98 | 4.570** | | |
| | Olevel's | 77.77 | 19.33 | | | |
| | Bachelors | 79.41 | 17.17 | | | |
| | Masters | 78.74 | 17.25 | | | |
| | MPhil | 73.83 | 21.26 | | | |
| | PhD | 63.80 | 16.30 | | | |
| Perceived Autonomous Support | Matric | 56.42 | 12.29 | 6.332* | | |
| | Olevel's | 51.50 | 14.42 | | | |
| | Bachelors | 47.75 | 12.91 | | | |
| | Masters | 43.17 | 13.60 | | | |
| | MPhil | 53.70 | 14.60 | | | |
| | PhD | 53.60 | 12.97 | | | |
| Perceived Psychological Control | Matric | 46.09 | 12.53 | 5.877** | | |
| | Olevel's | 43.72 | 13.03 | | | |
| | Bachelors | 39.38 | 11.17 | | | |
| | Masters | 38.00 | 11.69 | | | |
| | MPhil | 33.87 | 11.18 | | | |
| | PhD | 42.20 | 14.10 | | | |

The result of one way analysis of variance as shown in Table 4 indicates a statistically insignificant difference at the $p < .05$ level in curiosity and exploration scores for the school and university students: $F$ (402) = .890, $p < .488$. However, analysis of variance shows a statistically significant difference at the $p < .05$ level in student engagement scores. Post-hoc comparisons using the Tukey HSD test indicate that the mean score for O levels ($M$ = 77.77, $SD$ = 19.33) significantly differs from Matric ($M$ = 67.11, $SD$ = 15.98). Among university students, Post-hoc comparisons using the Tukey HSD test indicates that the mean score for PhD students ($M$ = 63.80, $SD$ = 16.30) significantly differs from Bachelors ($M$ = 79.41, $SD$ = 17.17), Masters ($M$ = 78.74, $SD$ = 17.25) and MPhil ($M$ = 73.83, $SD$ = 21.26). This shows that students in O levels have more student engagement as compared to matric and among university sample, students enrolled in Bachelors, Masters and MPhil are comparatively more engaged than PhD students. In one way analysis variance of perceived autonomous support a statistically significant difference is observed at the $p < .05$ level for students in school and university: $F$ (402) = 6.332, $p <.001$. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Matric students ($M$ = 56.42, $SD$ = 12.29) significantly differs from O levels ($M$ = 51.50, $SD$ = 14.48). Whereas among university students, MPhil Students ($M$ = 53.70, $SD$ = 14.60) and PhD students ($M$ = 53.60, $SD$ = 12.97) significantly differs from students enrolled in Bachelors ($M$ = 47.75, $SD$ = 12.98) and Masters ($M$ = 43.17, $SD$ = 13.60). This shows that students in O levels among schools perceived their teachers to be more autonomous-supportive than matric students. It can further be observed that matric students among school has significant scores on perceived psychological control ($M$ = 46.09, $SD$ = 12.533) as compared to O levels ($M$ = 43.72, $SD$ = 13.03). Similarly, students enrolled in higher degree programs, that is, MPhil and PhD programs found their teachers to be more autonomous and supportive than the bachelors and masters group.

## Discussion

There are two common teaching styles: controlling and autonomy-supportive. This concept answers the first research question of the present study that students found their teachers to be more autonomous supportive and psychologically controlling. The difference was significant in both school and university students; however, this indicates that a teacher's behavior can be perceived as both autonomy-supportive and controlling. (Soenens & Vansteenkiste, 2010; Vansteenkiste, et al., 2012).

Tessier, Sarrazin and Ntoumanis (2008) conducted trainings in order to enhance autonomy-supportive behavior during teacher-student learning activities. However, the results showed that being autonomy-supportive did not reduce teachers' controlling behaviors. Rather, controlling behaviors were still observed by students after training. Pelletier, Fortier, Vallerand, and Briere (2001) evaluated the perceptions of instructors' interpersonal style as being autonomy and supportive versues controlling, which indicated that supervisors use both components of interpersonal styles.

Moreover, the aim of conducting the current research was to understand the relationship between perceived teaching styles and student engagement, curiosity and exploration. The second research question stemmed a moderate relationship between perceived autonomous-supportive styles of teachers with students' engagement, curiosity and exploration. The result suggests that when students feel that their teacher is involved, supportive and cares for them, they will be more engaged inside classroom which leads to better attendance and grades. (Fall & Roberts, 2012). Hence, perceived teacher support and relatedness in classroom to predict students' engagement, curiosity and exploration illustrates the significance of social context of classroom which uncovers important direction to future research.

Among school students, results indicate that O Level students have better student engagement as compared to matric students. The results support the widely prevailed notion of the disparity between the two curriculums (Sikander, 2013). The matric board is a nationally recognized board for schools in which the curriculum is limited and rote-learning widely prevalent for learning of the concepts; whereas, O Level is Cambridge/London based curriculum for school students, which focuses on conceptual and activity based learning. Students who are enrolled in a curriculum which requires rote learning, need external motivation in the form of reward and punishment rather than intrinsic motivation, which stems from curiosity of learning something meaningful (Just & Carpenter, 1992). Such curriculm style requires teachers to adopt a combination of both teaching styles, that is, autonomous as well as controlling (Nandi, Chan, Chan, Chan, & Chan, 2006). Hence, as the results suggest, matric students found teachers to be more autonomous as well as psychologically controlling as compared to O Level students.

There was a difference between student engagement of bachelors and masters

students as compared to students enrolled in Mphil and PhD degree programs. In bachelors and masters program, the students have initital exposure to the real world of reponsibility out from the college protected environment. They have to cope with many transitions of beginning of higher studies and hence, they are freuquently found meeting deadlines of assignments, preparing for quizzes, enthusiastic about career and are therefore, intrinsicly motivated (Conrad, 2017). For the Mphil and PhD programs, teachers are some of the first members that students can relate to in their renewed academic life as a secure student-teacher relationship with expectations attached that are similar to caregiver. Such expectations of autonomy, curiosity and exploration color students' perception about their teachers. Hence, teachers are percieved to be more autonomous-supportive and more psychologically controlling in terms of encouraging them (Riley, 2009).

There was no significant difference on the scores of curiosity and exploration was observed among students. This demonstrates that the time students and teachers spend in the classes with limited interaction involves subtle controlling cues that teachers give out in order to derive results from the students. For example, each assignment, presentation, quiz has some form of academic reward attached to it. Even things as little as providing the right answers to questions in a lecture can sometimes result in allotment of grace marks, which basically engineers a students' mind into constantly thinking in terms of rewards and consequences. In simple words, the students' entire engagement becomes extrinsic and is focused on gaining marks by concentrating on teacher instructions (Quan-Haase, 2007).

## Conclusion and Recommendations

From an educational context, emphasis needs to be put on the entire process of autonomy-supportive style for satisfaction and competence as well as controlling style or thwarting. These factors encourage future researchers to consider the mediating needs together with the need for engagement and exploration in the classroom. Furthermore, literature holds a controversial view regarding perceived teaching styles. Researches suggest that teaching styles (autonomous-supportive and controlling) are two different entities whereas researches also show evidence that they are two sides of a same coin denoting that students may find their teachers being simultaneously autonomous-supportive as well as controlling. Hence, autonomy, support and control styles need to be considered independently in the future researches. The present research gives insights about the difference in educational

boards and degrees with regards to engagement, curisosity and exploartion, which can be considered in depth to generate inferences for our educational grading and teaching methodologies. In the light of the present research, it is imporant to realize that teaching style is central to student engagement; hence, it is important to have learning opportunities in classrooms to promote active and collaborative relationships.

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