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Gilbert, M

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Paper 160 – Full Paper

Connecting with Students for Academic Success: An Examination of the Process Education Model

Michael B. Gilbert, Ed. D.
Central Michigan University
195 E. Ojibway Ct., Suite 334
Mount Pleasant, Michigan 48849 USA
gilbe1mb@cmich.edu

Abstract

To examine the efficacy of the Process Education Model (PEM), a training and data collection project was undertaken. Ten teachers were trained on the basic concepts of PEM. They identified five students with whom they communicated easily and five students with whom they had difficulty communicating; 89 students participated in the project.

Analysis of student data revealed significant positive changes in grade-point average (GPA) and attendance. Notable was a significant difference in performance, with students most similar to the project teachers outstripping their counterparts who were least similar to the project teachers.

Teacher indicated high levels of importance for most PEM concepts, including motivating students by targeting verbal messages toward student needs. Observational feedback revealed a moderate degree of effectiveness of PEM concepts usage. Outcomes may have been limited by the short time frame of the project and lack of follow-up coaching/mentoring.

Introduction

Students whose learning needs do not match teacher delivery methods are often stymied in school. The lack of needs fulfillment can lead to predictable negative interaction behaviors that will often cause students to be referred out of the classroom for redirection or reassignment. The typical mismatch is with students whose learning preferences are extrinsic (kinesthetic and tactile) in classrooms where the predominant teaching preferences are intrinsic (auditory and visual).

Educators are highly intrinsic in their motivation and preferences. Their personalities suggest that they have little inclination to plan or to accommodate extrinsic learning activities (with certain exceptions offered in performance or production courses) (Gilbert, 2004). This is similar to the findings of Rushton, Morgan and Richard (2007).

While intrinsic teaching methods (lecture, seat work, etc.) are more orderly than group activities, they appeal mostly to students who learn best in that mode. Those who need more interaction are thwarted in a quiet setting. “Different learners have various

references and needs, so they learn in different ways” (Leontidis and Halatsis, 2009: 226).

Teachers tend to model what they know best. If what they model works, they are successful. If not, they may have difficulty. A “teacher’s system of implicit knowledge and beliefs about teaching and learning includes the teacher’s own experiences with learning primarily in the role of the learner, the teacher’s learning styles and the teacher’s teaching styles” (Nielsen, 2008: 155).

Educators are predominantly (90%) either thought-, belief-, or feeling-oriented (Gilbert, 1999, 2004). To stay energized and motivated positively, they need recognition for their work, time structure, acceptance of their convictions, and/or acceptance of them as people. Lack of positive motivation (needs fulfillment) leads to very predictable distress patterns. For example, someone who *needs* acceptance of convictions and does not get it will focus on what is wrong (regardless of how well something is done) and devolve into preaching and crusading, as a way of convincing others that the individual’s beliefs should be respected. Each of the different personality types has similar patterns.

The problem is that the more physically active students (about 25%) have strengths and needs in other predominant areas: reactions (likes and dislikes) – needing contact (the more playful the better), or action orientation – needing incidence (many activities in short bursts with quick payoffs). Failure to recognize or ignoring these orientations and needs can cause problems in the classroom; teachers may presume that these students are immature, lazy, or unwilling. Non-compliant students may misbehave; these patterns are the predictable distress (failure to get needs met positively). The eventual result is that students are separated from the typical academic learning environment by being put into special settings (alternative schools), being truant, or dropping out of school altogether. Additionally, coping with student misbehavior on a regular basis may be the most salient factor in teacher burnout (McCormick and Barrett, 2011).

The key to effective classroom interaction is for teachers to stay motivated positively, so they can *shift* from their own needs to helping students meet their needs. The other benefit of this approach is that if teachers know the indicators of others’ needs and can use intervention or prevention strategies in the classroom, they can help all students to stay *on task*.

The Process Education Model takes its underpinnings from the Process Communication Model (Kahler, 1982). The model includes components of perceptual preferences, interaction styles, and motivational psychological needs. Each component is ascribed to a specific personality type, which also has character strengths, preferred communication channels, and predictable patterns of distress.

An individual’s characteristics are generated from the results of a valid and reliable (Kahler, 1982) Personal Pattern Inventory (administered to hundreds of thousands people to date). For validation, 204 items were administered to 180 people, representing each of the identified personality types, to determine face, concurrent, and predictive validity.

Only items with a correlation greater than 0.60 ($p < 0.01$) were accepted for inclusion in the final inventory (Kahler Communications, n. d.).

An example of the effective use of the Process Communication Model (PCM) (Kahler, 1988/2008) was found in the Apache Junction (AZ) School District, where PCM is an integral part of their staff development and embedded in daily instruction. Selected outcomes reported by the superintendent (personal correspondence, W. Wright, 1989) were as follows:

- Reduction of failure rate in grades 7 and 8 from 20% to less than 2%;
- Reduction of disciplinary referral to less than 2% per day; and
- Increase in students entering post-secondary schooling from 19% to 43%.

The *purpose* of this study was to examine the efficacy of the Process Education Model (PEM), the updated educational applications of the Process Communication Model, in dealing with students whose orientations and needs are different from those of their teachers and who may be prime candidates for segregation from the regular classroom into alternative settings or for dropping out of school.

In many classrooms, the behaviors of students who are extrinsically oriented (kinesthetic and tactile) may be mistaken for inattentiveness or impulsivity (Bailey, 1998). These students may be identified as “most difficult to communicate with” by the teacher. If the communication difficulties are not resolved, the students may be referred for other services or interventions.

An answer to classroom interaction or communication problems may be found in the awareness of a need for teachers to connect differently (Bradley, Pauley, & Pauley, 2006; Faas, 1994; Gilbert, 1992, 1994, 1996, 1999; Hawking 1995; Kahler 1973; Pauley, Bradley, & Pauley, 2002; Short, 1988; Wallin, 1992). With or without their awareness, teachers may approach these students from a position of distress, because they (the teachers) may have little energy (or inclination) to deal with these students who are unlike themselves in their orientation and motivation (Bradley, Pauley, & Pauley, 2006; Gilbert, 1999, 2007; Pauley, Bradley, & Pauley, 2003).

When students are *on task*, they are engaged mostly because their needs are being met. They will not display distress. The key to achieving this engagement is for teachers to vary their delivery to match the learning preferences of *all* of their students (Gilbert, 1994).

Method

All data and information were collected from a PK-12 midwestern (U. S.) school district with approximately 1,400 students, the substantial majority of whom was White (92.3%). More than two-thirds of the students were eligible for the federal lunch program (indicating financial need). Average daily attendance ranged from 91.3% at the high school to 94-98% at the other three schools. The student-teacher ratio was 16:1.

The core group of 10 teachers was voluntary. They attended a three-day training session on the basics of PEM in October and November of 2009. Part of this training required that they complete a *Personality Pattern Inventory*[®] (*PPI*) (Kahler, 1982), from which their training materials and personalized profiles were generated.

Following the training, each of the teachers designated a group of ten of their students to participate in the project – five who were (1) the “most difficult to communicate with” and five who were (2) the “least difficult to communicate with.” Those labeled as *difficult* would likely be most different from their teachers.

The parents of the identified students were contacted to give consent for their children to be involved in the project and to provide their perceptions of how the school is meeting their children’s educational needs. Once parental permission was given, the students were asked (by their teachers) to complete the PPI and to provide their perceptions of how the school has been meeting their educational needs.

During early and late spring semester, each teacher was observed by someone outside of the school organization, certified to train in PEM strategies. These observations focused on opportunities to use PEM strategies and the skill with which the teachers took advantage of the opportunity.

In addition to the perceptual and observational information, school records were gleaned for pre-project and post-project student performance indicators, including scores from the Michigan Education Assessment Program (MEAP), grade-point average (GPA), and attendance.

Comparisons were made with pre- and post-project data, both within (pre-post) and between groups. The data are reported descriptively and with the results of a *t*-test analysis, so that inferences could be drawn regarding the following hypotheses:

1. There is no significant difference in the personality strengths between students who are identified by their teachers as easy or difficult to communicate with.
2. There is no significant difference in classroom performance between students who are identified by their teachers as easy or difficult to communicate with.
3. There is no significant difference in attendance between students who are identified by their teachers as easy or difficult to communicate with.
4. There is no significant difference in disciplinary referrals between students who are identified by their teachers as easy or difficult to communicate with.

In addition to the observation reports, teachers were surveyed regarding their perceptions of the importance and preparation of various PEM concepts and strategies. The potential responses ranged from “Does not apply” to “Very Important” or “Excellent Preparation.”

Results

Data and information were gathered from subjects of this study – 10 public middle and high school teachers and 89 students identified by the teachers as either easy or difficult to communicate with. (These designations were left to the teachers' interpretations and are described in the results of the teacher surveys below.)

For the purpose of this study, mean personality strengths (determined by the PPI) were used to compare the three groups of subjects – teachers (n = 10), “easy” students (n = 47), and “difficult” students (n = 42). Figures 1-3 show the personality strengths for each group. The numbers indicate relative strength for the characteristics of each personality type (on a scale of 100).

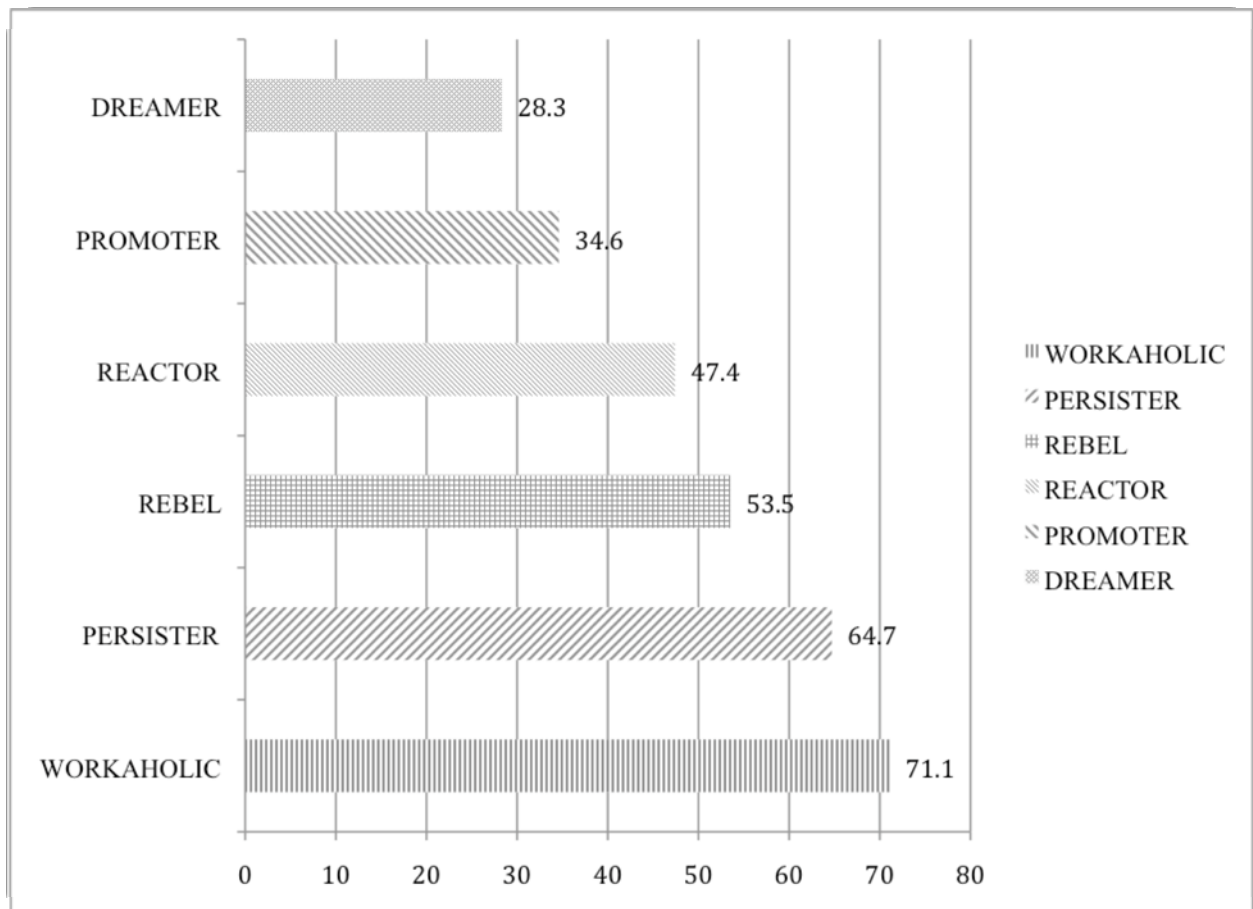


Figure 1
Instructor Personality Strengths (n=10)

As with Gilbert's previous work (2004), teachers were strongest in Workaholic and Persister characteristics. This means they prefer to deliver instruction in controlled classroom environments and activities (lecture, seat work, etc.). They would expect their students to function well with auditory delivery. The group of 10 teachers used in this research was different from their counterparts in other studies (Gilbert, 2005) in that they had stronger Rebel energy. In the previous research, Rebel was fifth strongest (47), as compared with this group, where Rebel was third strongest (53.5).

Stronger Rebel energy was particularly useful for the teachers in this study, since the majority of the students were in middle school. This is important because young adolescents develop in remarkable and dramatic ways. Being able to connect with them is crucial for their success in school. Rebel was strongest for the easy group and second for the difficult group.

As seen in Figure 2, the easy students had relatively strong Workaholic energy and could thrive in a controlled and intrinsic classroom environment. However, their playful Rebel strength could get in the way of long periods of individual desk activities. The teachers in the project had good Rebel strength and could “play” with these students as the situation warranted.

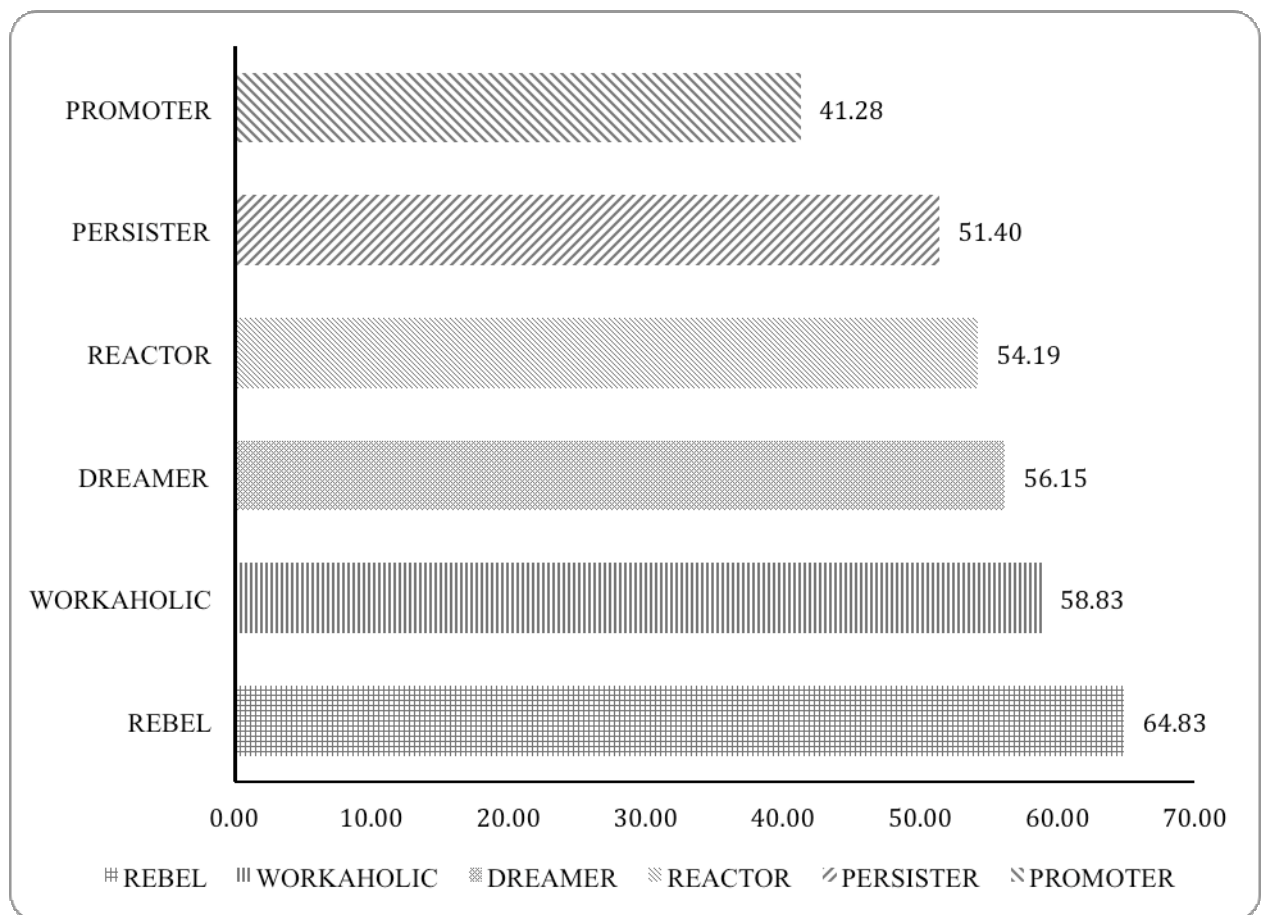


Figure 2
 Student Strengths: Easy (n = 47)

The difficult students (arrayed in Figure 3) were strongest in Dreamer and Rebel energy. These students would prefer either tactile or kinesthetic activities. Their Workaholic and Persister parts were comparatively the weakest.

It could be a struggle for Rebels to engage in quiet and orderly activities for long periods of time. Dreamers would tend not to initiate discussions or be responsive to general questions of the group; they would do better if they were directed. This group showed greatest strength (Dreamer) where the faculty had the least strength.

Because of their preference to be directed and not initiate, Dreamer students might be frustrating for Workaholic and Persister teachers, who are intrinsically motivated and might not regard highly students who needed ongoing direction. The strength of Dreamers is to stay at a task to completion or perform repetitive tasks without experiencing distress.

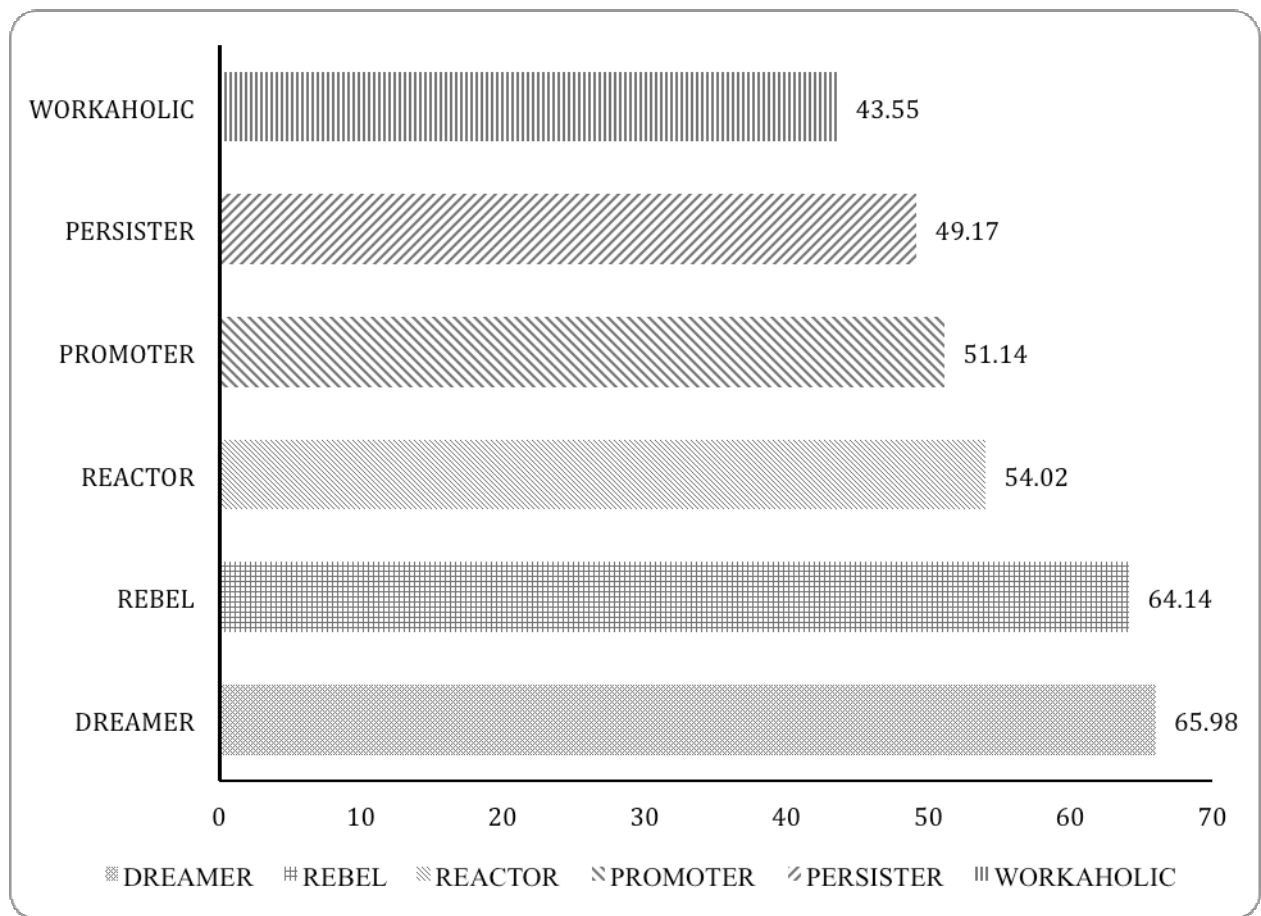


Figure 3
Student Strengths: Difficult (n = 42)

The descriptive data show more synchrony between the teachers and the easy students and greater disparity between the teachers and the difficult students. The easy students seem to match more closely the intrinsic orientation of their teachers than do the difficult students, who were decidedly more extrinsic in their orientation.

Designations

The designation of whether students were easy or difficult was left to the teachers, with no guidance. The researcher was interested in what criteria the teachers would use (similar to Bailey's 1998 study). Listed below are some of the criteria the teachers used:

1. If the student responded to me! If I smile and they smile. Or I talked; they responded. Students who gave little or no interaction, I felt were the difficult ones.
2. I based my (Easy and Difficult) communication on the following: (a) personalities working well together, (b) talking routinely, and (c) willingness to engage in a conversation.
3. Are they disruptive in class – talk too much, out of seat, don't listen...?
4. Good kid. Follows instructions and gets work done on time.

These criteria also reflected the strengths or lack of strength of the teachers. In numbers 1 and 4, the teachers expected responsiveness (obedience?) from the student. If it were not present, the teacher viewed that student as difficult. Disruption, however that might be defined, was problematic.

Strengths

With regard to Hypothesis 1 – “There is no significant difference in the personality strengths between students who are identified by their teachers as easy or difficult to communicate with” – several significant differences, determined by a *t*-test, were noted (as shown in Table 1). The hypothesis is rejected, in part – there are significant differences between students whom teachers identify as easy or difficult to communicate with.

<i>Personality</i>	<i>Easy (n=47)</i>	<i>Difficult (n=45)</i>	<i>t score</i>	<i>p</i>
Workaholic	58.8	46.1	2.28	0.012*
Persister	51.4	50.5	0.20	0.422
Rebel	64.8	64.9	-0.02	0.493
Promoter	41.3	51.0	-1.92	0.029*
Reactor	54.2	55.5	-0.25	0.401
Dreamer	56.1	66.7	-1.86	0.033*

Table 1
Easy v. Difficult Students by Mean Personality Strength

*($p < 0.05$)

The easy students showed significantly higher amounts of strength in Workaholic energy (58.8). They matched well with the teachers' Workaholic strength of 71.1, indicating the easy students were more likely in tune with their teachers than were the difficult students, who had significantly lower Workaholic energy (46.1).

The difficult students showed significantly higher amounts of strength in Promoter and Dreamer energy than their easy counterparts. This difference may also support the classification by the teachers, whose Promoter energy (34.6) and Dreamer energy (28.3) were comparatively the weakest among the others.

Michigan Educational Assessment Program (MEAP)

Each group was compared with itself for the 2008-09 and 2009-10 academic years and with the other group in comparison. The 2009-10 test was administered before the teachers were trained, so *no effects can be attributed to the training*.

Grade-Point Averages

There were no significant differences for each group between 2008-09 and 2009-10 regarding grade-point averages. Paired samples were used.

When comparing the students for each year, there were highly significant ($p < 0.001$) differences for both years, with the easy students outstripping their difficult counterparts. It is reasonable to assume that grades are mostly students' ability to meet teacher expectations. With markedly different orientations (intrinsic v. extrinsic), it is not surprising that students identified as "easy" performed better. Table 2 arrays the comparisons.

	<i>Easy</i> 2008-09	<i>Difficult</i> 2008-09	<i>Easy</i> 2009-10	<i>Difficult</i> 2009-10
Mean	3.17	2.30	3.07	2.24
Observations	35	28	35	28
df	61		61	
<i>t</i> score	4.48		4.00	
<i>p</i>	<0.001		<0.001	

Table 2
GPA Comparisons Easy v. Difficult Students, 2008-10

With regard to Hypothesis 2 – “There is no significant difference in classroom performance between students who are identified by their teachers as easy or difficult to communicate with” – the data indicated highly significant ($p < 0.001$) differences

between the groups. The hypothesis is rejected. Easy students performed significantly better than students identified by their teachers as difficult.

Attendance

This study examined differences in attendance between easy and difficult students. Comparisons were made both within and between groups. These are shown in Table 3.

	<i>Easy</i> <i>2008-09</i>	<i>Difficult</i> <i>2008-09</i>	<i>Easy</i> <i>2009-10</i>	<i>Difficult</i> <i>2009-10</i>
Mean	12.81	6.34	10.67	5.86
Observations	47		42	
Pearson Correlation	0.35		0.42	
df	46		41	
<i>t</i> score	2.45		2.55	
<i>p</i>	0.007		0.007	

Table 3
Attendance 2008-2010

Both groups showed a significant ($p < .01$) reduction in absences from 2008-09 to 2009-10. Since the data were collected well into the project, it is reasonable to assume that the decrease in absences (approximately 50%) may be attributable, in part, to greater interest and connection to school (in general), the curriculum, and the teachers. The specific effects of the training are speculative because of the many possibilities that might relate to the changes.

There was no significant difference between the groups in attendance before and during the project. While decreases in absences are noted for each year, the amount of the decrease was equivalent in both groups.

Discipline

There were limited data available regarding discipline. Hence, no statistical analysis was done. The hypothesis regarding differences in disciplinary referrals between students who are identified by their teachers as easy or difficult was not able to be examined.

Observations

An individual certified to train PCM/PEM concepts visited each teacher twice during early and mid 2010. The purpose was to document opportunities to use PEM concepts:

- Classroom arranged to meet different learner needs.
- Different learner needs apparent.
- Different Interaction Styles used.
- Different Perceptions (Perceptual Preferences) used.
- Different Psychological Needs (Motivation) addressed.
- Different Communication Channels used.
- Drivers (first degree distress) identified, then proper channel and perception offered.
- Masks (second degree distress) identified, then appropriate motivation (needs) offered positively.
- Attempted to motivate students with verbal messages aimed at Phase.
- Able to shift to meet student perception and need.

The opportunity (Opp) scale was 0-4 (no opportunity to frequent opportunity). As there were opportunities, the observer also rated effectiveness (Eff), 1-5 (does not apply to very effective). Table 4 shows the overall average results for both observations of the project teachers of the aforementioned concepts.

	<i>First Observation</i>		<i>Second Observation</i>	
	Opp	Eff	Opp	Eff
Overall Average	3.4	3.4	2.8	3.1

Table 4
Classroom Observation of PEM Usage

The averages show there was moderate opportunity to use PEM concepts, as judged by the observer, with a slight drop from the first to the second observation. The effectiveness was judged to be moderate, again with a slight drop from the first to second observation.

The observer reported signs of first- or second-degree distress in the teachers. This means that the teachers were not getting their needs met positively and were focusing more on their own needs than shifting their energies to meeting student needs.

Since teachers were strongest in thought and belief orientations, an example of their distress might be: “You know the assignment was due yesterday. It is important that you meet the deadline.” This would indicate the teacher’s being critical about issues of time, distress behavior for those with strong thought orientations.

While deadlines are appropriate for classroom structure, some teachers (in distress) will become critical if they experience what they perceive to be a lack of good thinking on the part of their students. The interesting aspect of distress is that one may not realize that it is present. Again, distress behaviors are indicative of lack of positive need fulfillment.

Table 5 shows the individual observation categories and the Opportunity and Effectiveness averages. These were components of the training designed to give teachers tools to connect with their students more effectively.

Teacher Behavior	<u>Observation 1</u>		<u>Observation 2</u>	
	Opp.	Eff.	Opp,	Eff.
Classroom Arranged to Meet Learner Needs	2.9	3.4	3.1	3.6
Different Learner Needs Apparent	3.8	3.9	3.3	3.9
Different Interaction Styles	3.8	3.7	3.2	4.0
Different Perceptions	3.8	3.5	3.3	3.5
Different Needs Addressed	4.0	3.8	3.2	3.1
Different Channels Used	3.9	3.2	3.3	3.7
Drivers Identified – Proper Perception/ Channel Offered	2.6	3.3	2.2	3.0
Masks Identified – Proper Motivation Offered	1.7	3.4	1.0	n/a
Verbal Motivation Attempted	3.9	3.5	3.1	3.1
Ability to Shift to Student Perception/Need	3.9	3.3	3.2	3.4

Table 5

Observation Data Averages

There was minimal to moderate opportunity to use all of the concepts, with two notable exceptions – identifying Drivers and Masks. One interpretation of these lesser opportunities is that the students did not demonstrate much distress. This suggests positive involvement in class activities.

Effective use of the concepts was in the moderate range throughout (3.0-4.0). The most effective (3.7+) teacher behaviors were: arranging classrooms to meet learner needs, recognizing different learner needs, employing different interaction styles (autocratic, democratic, benevolent, or *laissez faire*), and using different communication channels (directive, requestive, nurturative, or emotive).

Surveys

Students and parents

Students participating in the study and their parents were surveyed before the teachers completed their training and again at the end of the project period. They were asked questions related to how well the school supported their learning and success. A five-point Likert scale was used (from Strongly Agree [5] to Strongly Disagree [1]).

The weighted averages (3.55-3.76) showed positive responses to the schools' support for learning and success on the part of both students and parents. No attempt was made to compare easy and difficult students.

Teachers

At the end of the school year, the project teachers were asked to complete a survey regarding their use of the Process Education Model (PEM). Seven teachers responded.

Teachers were asked to rate each PEM component in terms of its importance to them as professionals (from Does Not Apply=1 to Very Important=5) and on how prepared they were to use each concept (from Does Not Apply=1 to Excellent Preparation=5). The means for both the importance of and their preparedness in PEM Concepts can be found in Table 6. Teachers also wrote the following comments regarding their response to these questions:

- I had difficulty understanding (the concepts). More time was needed.
- I am not as prepared, but could be me.
- I need more practice.
- I think it takes “reminders.” I keep the notebook close.
- I was well prepared at the time I learned it, but I need it to be reviewed, over and over (just like the kids ☺).

These comments suggest that periodic mentoring or coaching would have been helpful for more effective application of the training. This support was offered but not accepted, mostly because of time constraints expressed by the teachers.

Concepts	Importance	Prepared
Personality Structure (Condominium)	4.57	4.00
Character Strengths	4.71	4.00
Interaction Styles	4.43	3.86
Perceptions (Perceptual Preferences)	4.29	3.57
Psychological Needs (Motivation)	4.14	4.00
Communication Channels	4.00	3.71
Miscommunication/Distress Sequences	4.00	3.71
Masks	4.14	3.57
Failure Mechanisms	2.71	3.29
Personality Parts	4.50	4.00
Identify Driver (first degree distress), then offer proper channel and perception	4.00	3.71
Identify Masks (second degree distress), then offer appropriate motivation (addressing needs) positively	3.71	3.29
Motivate Students with Verbal Messages Aimed at Needs	4.43	4.00

Table 6

PEM Concept Ratings by Teachers

The basic concepts of the model (personality structure, character strengths, interaction styles, and motivating students by targeting their needs) received the highest average ratings of importance (4.43 or higher). Some of the more advanced concepts (identification of masks and failure mechanisms) received the lowest average ratings (3.71 and 2.71, moderately to minimally important).

Teachers expressed that they were minimally to moderately prepared on the various aspects of the model. Given that the training covered three days with no follow-up training, the results appeared salutary. There was relative synchrony between the ratings of the importance of the concepts and preparedness to use the concepts.

Discussion

This study attempted to examine the efficacy of the Process Education Model as a means of affecting student performance. The short time span of the project limited the use of some data.

Parents and students indicated the same relative responses on both pre- and post-surveys. The responses were positive.

Given the amount of initial training (three days) and the lack of follow-up training (offered but not convenient to the teachers' schedules), the results were positive. The

teachers indicated that most of the concepts that were part of the training were very important. They indicated they were moderately prepared to use the concepts.

What seems apparent is that those who took the time to practice what they had learned were more positive with the potential for change than those who may not have taken the time or energy to implement what they had learned. This is not surprising given the brief training and lack of follow-up training, coaching, or mentoring. A systemic adoption must be accompanied by adequate and ongoing support to achieve widespread results.

There is useful anecdotal information regarding the success and utility of the Process Education Model (Bradley, Pauley, & Pauley, 2006; Gilbert, 2004; Hawking, 1995; Pauley, Bradley, & Pauley, 2002). Few studies have provided statistical analyses of the use of the Process Communication Model in education (Bailey, 1998; Wallin, 1992), and those studies were not focused on the extent to which the Model affects student learning.

The current study begins the more formal inquiry as to whether teachers trained to understand student preferences and needs as determined by Kahler's Personality Pattern Inventory can make a difference in student learning. Additionally, this study examined the differences between students who connected with their teachers easily and those who may have had greater difficulty, and *vice versa*.

The most interesting outcome was that difficult students performed more poorly than did the students identified as easy. This difference was shown in their grade-point averages.

The caution is that grades are criterion-referenced and may measure little more than a student's ability to meet teacher expectations, which may be related to the ease or difficulty of communication. In this study, the difficult students were more extrinsically oriented and may have been challenged with controlled and less kinesthetic activities in the classroom. This is the key outcome – students and teachers relate better when their personality traits are in synchrony.

While this study showed some significant results relating to different communication and learning preferences, the size of the project may have contributed to the limited outcomes. The PEM is comprehensive in assisting with instructional delivery and student learning. The unique nature of the Model and the encouraging aspects of the results suggest a more extensive project that incorporates norm-referenced measures and ongoing teacher coaching/mentoring.

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