

Determining the Learning Styles of Prospective Educational Leaders

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Abstract

School leaders must provide instructional leadership to maximize student learning, including instruction that meets learning styles differences in students. This research intended to measure the learning styles of students in a leadership preparation program. I discovered that these prospective leaders differed widely in their twenty learning preferences as identified by the Productivity Environmental Preference Survey. This implies that principals recognize learning styles differ. Thus, they will be able to encourage instruction that recognizes these differences in students.

Goldring and Schuermann (2009) recently reminded us that “contemporary school leaders face a daunting array of challenges, are called upon to serve an evolving range of roles, and must draw upon a breadth of knowledge and skills to provide effective leadership to the students, teachers, and communities whom they serve” (p. 9). One of the challenges involves a leader’s propensity to provide leadership in the teaching and learning of students. Similarly, Murphy, Elliott, Goldring, and Porter (2007) observed, “leaders in highly productive schools have a strong orientation to and affinity for the core technology of their business - and teaching” (p. 183).

Leadership preparation programs (LPPs) regard the orientation to teaching and learning as a core element of the leadership preparation process. Educational Leadership Constituent Council Standard 2 expects that educational leaders be able to spearhead an effective instructional program that utilizes the best student-learning practices at their schools (NPBEA, 2002). Murphy, et al. (2007) summarized the research support for this position with their Learning Centered Leadership Framework. In this framework, they identified a leader’s knowledge of instructional programming as one of eight behaviors that characterize leadership for learning. In effect, the research supports the expectation that successful LPPs should acquaint prospective leaders with instructional practices that best serve their students.

One such practice is the application of learning-style responsive instruction. As Lovelace (2005) concluded after her robust meta-analysis of learning styles, “learning-style responsive instruction would increase the achievement of, and improve the attitudes toward learning for all students” (p. 181). And as Sternberg, Grigorenko, and Zhang (2008) theorized, accounting for both ability-based and personality based learning styles of students can improve instruction and assessment. They further suggested that ignoring these differences “prevents students from capitalizing on strengths and/or compensating for or correcting weaknesses and thus is suboptimal” (p. 486). The problem is that we are not yet sure that we train prospective leaders adequately, as part of their repertoire of skills as instructional leaders, to be able to address this core need. In reality, LPPs may not routinely measure participants’ learning styles nor do they necessarily model instruction that reflects participants’ dominant learning modalities. In that vein, the intention of this investigation is to assess the learning styles of prospective school leaders in an LPP and match the primary instructional methodologies with the participants’ preferred learning styles.

Perspective of Learning Styles

Since the 1970s, Dunn and Dunn have been advocating the use of techniques that take the learning styles of students into account. They defined learning styles as “... a biologically and developmentally imposed set of personal characteristics that make the same teaching method effective for some students and ineffective for others, ...” (Dunn, Beaudry, & Klavas, 1989, p. 50). They subsequently refined their definition of learning styles as “the way a learner begins to concentrate on, process, internalize, and remember new and difficult academic content ” (Dunn, Denig, & Lovelace, 2001, p. 12). This emphasis is augmented by the analysis of Dunn, Honigsfeld, and Shea-Doolan (2009) that concluded that teachers who are knowledgeable of their student’s learning styles are more apt to fashion content to meet the students’ learning needs. The results of numerous studies overwhelmingly support the position that matching students’ learning-style with complementary instruction improves academic achievement and student attitudes toward learning (Sullivan, 1993; Sullivan 1996/1997; Dunn, Griggs, Olsen, Beasley, & Gorman, 1995; Lovelace, 2005).

What we do not yet know is whether prospective leaders are cognizant of their own learning preferences and whether they experience instructional modalities that are aimed at their primary learning styles. Also of interest is whether LPPs are even modeling the kind of differentiated instruction that take different learning preferences into account.

Method and Procedures

As stated before, this inquiry was intended to assess the learning style profile of leadership candidates in our principal preparation program and match their learning preferences with the instructional methods that the leadership preparation program models. To answer this question, some fifty students who were enrolled in three sections of our Principalship courses during fall 2009 were invited to complete the Productivity Environmental Preference Survey (PEPS), developed by Rita Dunn. This instrument, intended to measure a person’s learning style or preference, enjoys substantial support as valid and reliable as reported by Dunn et al. (1995).

It is comprised of 100 self-report items that cover five sets of learning elements or constructs: immediate environment, emotional factors, sociological needs, perceptual preference, and physical needs. These 100 items also measure 20 learning preferences.

Environmental items measure ones preference for noise, light temperature and room design. *Emotional factors* are geared toward assessing ones motivation, persistence, responsibility and level of structure. Sociological needs are assessed based on one's preference for learning alone or with peers, one's flexibility and one's orientation toward authority. The *perceptual preference* items cover items related to one's auditory, visual, tactile and kinesthetic preferences. Finally, *physical needs* related to one's mobility and the time of the day that one maximizes learning (Fralick, 2010). The completion of this instrument exposed prospective leaders to their own learning preferences and helped them recognize the diverse learning dimensions of others.

Results

This research was designed to describe the five learning elements of the prospective educational leaders: (a) immediate environment, (b) emotional factors, (c) sociological needs, (d) perceptual preference, and (e) physical needs. The range of scores for each element was 0 – 100. As shown in Table 1, the 33 respondents scored between 51.4 and 53.1.

Table 1

Descriptive Statistics Showing the PEPS Learning Elements

Learning Element	Mean	Std. Deviation	<i>N</i>
Environment	51.35	4.18	33
Emotion	53.06	3.93	33
Sociology	51.68	4.41	33
Perceptual	53.02	3.77	33
Physical	51.41	2.53	33

A Repeated Measures ANOVA indicated that the means for each of the five sets of learning elements were not statistically significantly different from each other ($p = 0.096$). This suggests that the prospective principals did not differ meaningfully across these domains and in fact scored toward the median of the distribution in each case.

I also intended to measure the 20 learning preferences and so our next step was to observe how learning styles were distributed across each of the 20 preferences that the PEPS measured. These are represented in Figure 1. Like the elements, preference scores ranged from 0 – 100. Typically, a score of less than 41 or greater than 59 indicates a strong preference for or against that particular element. For example, a score of 39 for noise indicates that the respondent has a low threshold for noise while learning; conversely a score of 65 for noise would indicate a strong preference for noise while learning. In essence, the convention for interpreting preference scores is to focus on the outliers.

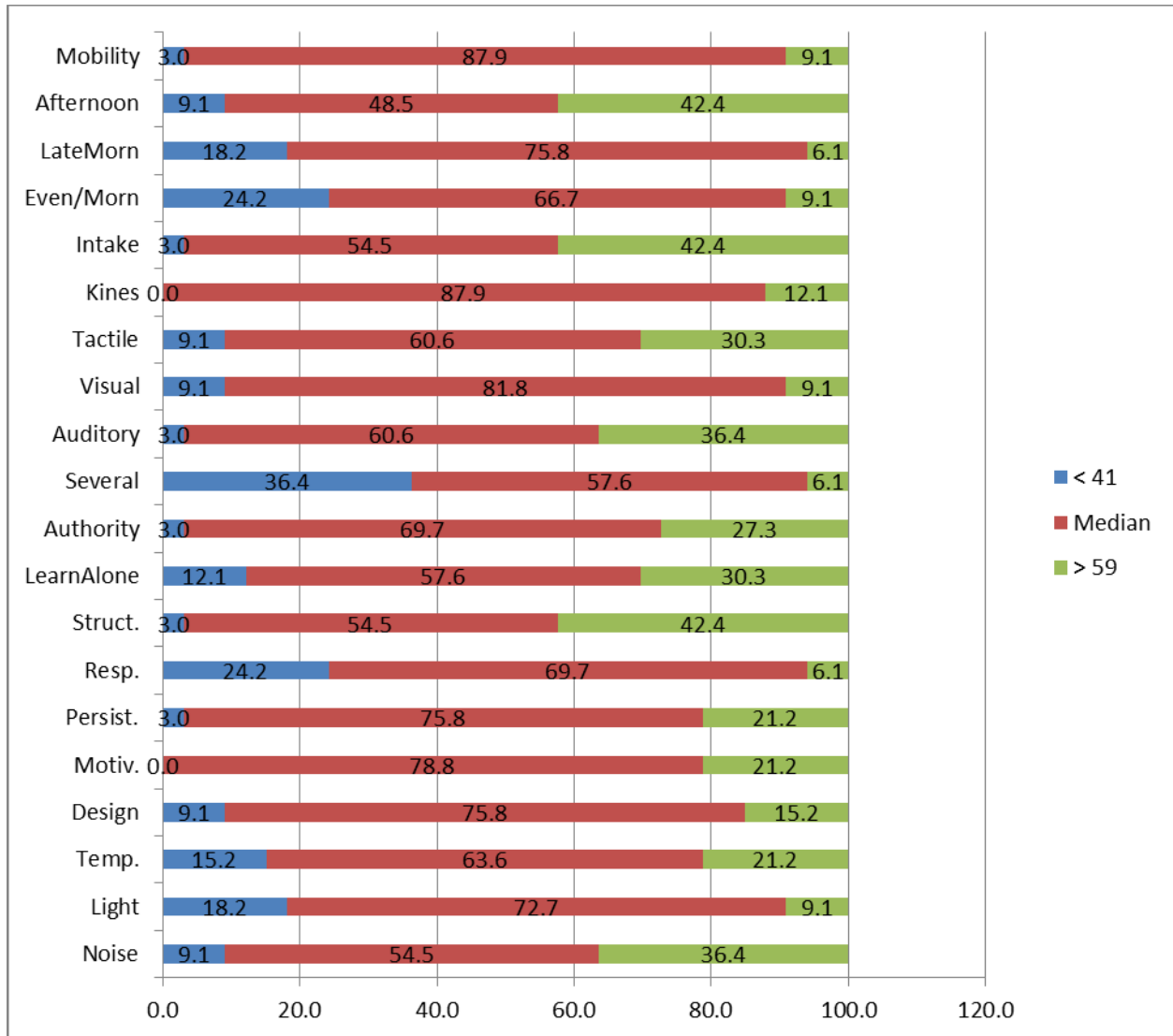


Figure 1. Distribution of learning preferences.

Figure 1 shows how the scores for each preference were distributed; indicating the percentage of respondents whose preference fell below, within and above the 41 to 59 benchmarks. Note that the five most glaring outliers were:

- a. 42.4% of respondents learned best in the afternoon (Afternoon)
- b. 42.4% of respondents preferred to be eating (Intake)
- c. 42.4% of respondents prefer structure (Structure)
- d. 36.4% of respondents were auditory learners, (Auditory) and
- e. 36.4% of respondents preferred some noise/sound while learning (Noise).

These data would indicate that these respondents learn best in the afternoon, in a structured environment while having a snack. They are auditory learners who prefer to have music playing in the background as they learn.

Contrast with Instructional Method

Time of day of instruction. The LPP was largely a night and weekend program because most participants were full-time educators. As such, logistically, we are unable to deliver courses during the afternoon to maximize the time of day these educators learned best. Interestingly the conventional wisdom is that students learn best in the morning. Doubtlessly, the result of the survey at least alerted educators to the fact that they do not all learn best in the morning, thus they could not expect that all students learn best during any particular time of the day. This issue will require a great deal of innovative thinking, since the time of instruction is prescribed and cannot be easily modified for the individual student.

Intake. The classes in the LPP were generally three hours long. In the past, instructors allowed students to bring food and drinks into the classroom. However as we morphed into providing more technology-rich classrooms, we began to adopt a “no food” policy in the classrooms. If subsequent participants also prefer intake while learning, we will need to figure out how we model a way of having learners access food while in the classroom. These adult learners are given breaks during the three-hour class, so it is not as significant of an inconvenience for them, but we need to think of ways of modeling a technology-rich learning environment where students who want to can eat or drink, since in schools students are not normally given breaks to eat or drink.

Structure. Many of our classes are well structured, which a majority of the participants preferred. The effective schools literature has always insisted that successful classrooms are characterized by a structure in which, for a high percentage of the time, students are engaged in whole class or large group, teacher-directed, planned learning (Lezotte, 1991). This paradigm still dominates our instructional psyche today, and in fact may be true for most students. However, this does not preclude an unstructured classroom environment for those students who are not being successful in structured classrooms. In modeling a less structured classroom, we need to introduce ambiguity in the manner in which we organize and deliver instruction to our educators.

Auditory. With the proliferation of technology, we are catering primarily to our visual learners. Whiteboards, PowerPoint presentations, online classes all help the visual learner. This LPP has migrated to those technologies, and in fact has several online classes. This means that

the auditory learner, though fewer in number, has to embrace technologies that are advantageous to the visual learner. The respondents in this investigation preferred auditory stimulation. The implication is that we cannot entirely abandon vocal instructions and classroom discussions entirely. Fortunately, the electronic portal that this institution uses allows for both visual and auditory streaming of information.

Sound. Some 37 percent of our participants in this investigation prefer some noise while learning. Again, conventional wisdom states that a classroom in which learning is taking place is a quiet classroom. One of the adaptations we can explore in our LPP classrooms is having music playing in the background.

Conclusion

As Hawk and Shah (2007) indicated, “the use of learning style instruments should allow the students and faculty to consider and seek out more carefully the factors and activities that are conducive to more effective and deeper learning” (p. 16). No doubt our LPP participants have become successful by adapting to the teaching style of the instructors in the LPP program and in other degree programs that they completed. Also, when they are studying independent of the classroom, they apply whatever strategy that is consistent with their learning preference. The intent here is not necessarily to enhance their own cognition, but to acquaint them with other learning preferences so that they can consider how instruction can be modified to maximize learning for them and apply this in their own classrooms.

In that regard, this study was intended to ensure that our prospective educational leaders recognize that there are varying conditions under which learners learn optimally; this is one skill that helps them provide the effective leadership to teachers what Goldring and Schuermann (2009) suggested. This study will help educational leaders think about the strategies that best serve students who demonstrate that a variety of learning conditions work best for them. For example, educational leaders need to start to think of ways to modify the traditional classroom to possibly change the time of day for instruction of certain subjects for students who are not being successful, allow them to snack while they learn, and introduce sound and visual stimulations in the classroom, when necessary. No doubt, the carefully controlled classroom in which the student sits at a desk may need to be rethought to address the needs of the kinesthetic learner as well. My expectation is that students will vary widely along the other dimensions of the PEPS as well, therefore the modifications to be considered, perhaps at the individual classroom level, will be much greater than those discussed in this article.

The study will also alert educational leadership programs to augment their course content in leadership to include the theories and practices that address learning styles. It is necessary that leaders recognize that their teachers and students have varying modes of learning, and that they – leaders and teachers – need to seek ways of addressing those differences at the classroom level.

The implications for addressing learning styles of students are numerous. For example, in the information age in which the use of technology, social media, and other novel innovations that students use are now the norm, it is imperative that we maximize the learning opportunities of all students. Likewise, in many parts of our nation, we are experiencing an explosion of students who are unlike the traditional student in terms of their learning expectations. The next

step in the evolution of this line of inquiry will be to look at specific ways that educational leaders can use this information to transform their own thinking about the learning process and train or assist their teachers to apply learning-style responsive instruction.

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