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# Learning Style Variations Between Rural and Urban Students

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This research characterized the preferred learning styles of a sample of secondary school students, and compared variations in learning styles between students in rural and urban school settings. The learning style characteristics examined include: (1) serious, analytical learner, (2) active, practical learner, (3) observation-centered learner, (4) passive accepting learner, (5) concrete, detail, fact-oriented learner, and (6) non-adaptive, struggling learner. Rural students were found to be significantly higher in the serious, analytical and active, practical learner characteristics than their urban counterparts. Smaller but significant differences in preferred learning styles were found for three other characteristics. Implications for rural educational development are suggested.

Learning styles of high school students vary among individual students and groups of students. Indeed, individuality in learning exists in today's classrooms. However, patterns of repetitive and consistent learning behavior in the classroom may also be observed. For example, certain students become actively involved in verbalizing thoughts, while others prefer hands-on experiences. Still others appear to the teacher to passively absorb their environment. Such patterned behaviors are characteristic of basic styles of learning.

A learning style is defined as "the way each person absorbs and retains information and/or skills" (1, p. 12). Each learner possesses an individual learning style, which is a preferential mode of learning. Learning styles may be described many ways, much as individual personality is characterized by psychologists into "personality characteristics."

Research into learning styles is relatively new to education, having started principally in the 1970's. Based upon investigations into cognitive styles [6], several major approaches to the study of learning styles resulted. The various approaches are represented by pioneering texts authorized by Dunn and Dunn [2] and Kolb [8]. For reviews of other approaches, see National Association of Secondary School Principals [9; 10], Kirby [5], Gregorc [3], Knaak [6], and Dunn [1].

Learning styles have been characterized across many dimensions, focusing on cognitive aspects, such as abstractness and concreteness in learning style or on emotional-psychological dimensions such as motivation and responsibility. Some descriptions consider teaching techniques rather than learning style characteristics. Since a central goal in studying learning styles is to be able to characterize how the mind functions while learning, most methods focus on the cognitive and affective domains of learning.

One of the most well developed approaches to learning styles, from both the theoretical and empirical perspectives, is based on the experiential learning theory of Kolb [8]. Experiential learning theory conceptualized four different modes of student abilities needed to succeed: (1) concrete experience abilities, (2) reflective observation abilities, (3) abstract conceptualization abilities, and (4) active experimentation abilities.

The Kolb approach was validated on adult subjects [7; 8]. Using this theoretical approach and a revised methodology, Kendall and Sproles [4] tested the Kolb theory of four basic learning style characteristics on high school vocational home economics students. This involved developing a *Secondary Learning Styles Inventory,* consisting of 24 Likert scale items designed to measure Kolb's proposed characteristics of learning styles. This instrument was administered to 482 vocational home economics students in a representative selection of five high schools in the Tucson, Arizona area. The resulting data were factor analyzed using the principal components method with orthogonal rotation of factors. This resulted in partial verification of Kolb's adult-oriented theory. The Kendall and Sproles findings suggested that a six factor model of learning style characteristics more completely identified learning styles in younger populations. Those learning style characteristics, including some not explicitly identified by Kolb, were labeled: (1) serious, analytical learner, (2) active, practical learner, (3) observation-centered learner, (4) passive, accepting learner (5) concrete, detail, fact-oriented learner, and (6) non-adaptive, struggling learner.

These six learning style characteristics were further validated by replicating the Kendall and Sproles study with students in vocational agriculture [11]. The study employed the same factor analysis procedure to validate the six learning styles. The same six factors were isolated

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from the data, thereby verifying the results of Kendall and Sproles' research. These data and the six learning style characteristics validated in the two studies are the basis for the research reported in this paper.

## PURPOSE OF THE STUDY

This paper reports research describing the learning styles of secondary school students in both rural and urban settings. While research on learning styles has progressed in recent years, little has been done to characterize the patterns and variations in learning styles between rural and urban students. Therefore, this research addresses the question: Do preferred learning styles vary between students in rural and urban schools? Results of the research will help rural as well as urban educators interpret the classroom learning environment more accurately, particularly when variations in preferred learning styles exist. This in turn will ultimately assist matching teaching styles to learning styles.

## METHODS AND PROCEDURES

The *Secondary Learning Styles Inventory* [4] was administered to 9th through 12th grade students enrolled in classes in vocational agriculture in urban and rural high schools during April, 1986. This instrument measures students' preferred learning styles on a 5-point Likert scale with end points of "strongly disagree" to "strongly agree." A total of 41 schools and 2,101 students participated in the study. Participants, although sampled as a part of a vocational agriculture program, were representative of high school students. They were full-time students who participated in a diverse curriculum in comprehensive secondary schools. Many were taking the course as an elective. Students completed the survey during a selected class. They were given the survey while the teacher read the directions from a prepared script. Students were asked to answer each question to the best of their ability.

The six major characteristics of learning styles were validated through factor analysis in a prior study [11]. The items that comprised each factor are shown in Table 1. The factor analysis established the construct and content validity of the six factor model.

Analysis of the research question identified previously followed two approaches. First, to assess preferred learning styles among students, frequency counts were made for the statements comprising each factor. The percentage of those who "agreed" or "strongly agreed" were combined into a single category to represent the preferred learning styles. The second approach was addressed by separately crosstabulating the the urban/rural geographic setting in which the school was located against each learning style statement. For this analysis, each statement was collapsed to two points, those agreeing with the statement (those preferring that learning style), and those who were neutral or disagreeing (those with no preference or a dislike for that learning style). This provided a useful summary measure for each individual scale. The Chi Square statistic was used to test the significance of each crosstabulation.

## FINDINGS

After elimination of 107 questionnaires with incomplete or unlikely response patterns, a total of 1,994 respondents were included in the final analysis. The sample was 32% female and 68% male. Thirty-nine percent of the subjects were in ninth grade, 28% were in the 10th, 20% in the 11th, and 13% in the 12th grade. Forty-three percent of the sample were 14-15 years old and 57% were 16-18

**TABLE 1**

Learning Style Preferences of Students

| Statements Measuring Learning Style Characteristics | Agreement % |
|---|---|
| *Factor 1—SERIOUS, ANALYTICAL LEARNER* | |
| I like to think things out rationally and carefully. | 60 |
| In learning, I value careful and logical thinking. | 57 |
| I enjoy thinking through difficult things and making wise decisions. | 57 |
| I think seriously and think back on what I learn. | 57 |
| I enjoy putting together new ideas and thoughts. | 66 |
| I like hearing about new ideas and facts. | 73 |
| *Factor 2—ACTIVE, PRACTICAL LEARNER* | |
| Actually doing things is my preferred way of learning. | 74 |
| I learn more through actual experience and practice with a subject. | 80 |
| I prefer learning actual practices, not theories. | 65 |
| I enjoy doing experiments to see how things work. | 76 |
| I learn well from practical and useful activities. | 76 |
| I learn things well when I'm emotionally involved and excited. | 68 |
| *Factor 3—OBSERVATION-CENTERED LEARNER* | |
| I learn well by watching what others do. | 64 |
| Observing is a good way for me to learn. | 77 |
| *Factor 4—CONCRETE, DETAIL, FACT-ORIENTED LEARNER* | |
| I enjoy taking notes and writing down facts I learn. | 17 |
| I like to look at things in detail, breaking them down into separate parts. | 41 |

**TABLE 1 Continued**

Learning Style Preferences of Students

| Statements Measuring Learning Style Characteristics | Agreement % |
|---|---|
| *Factor 5—PASSIVE, ACCEPTING LEARNER* | |
| I usually accept things I learn without questioning them. | 20 |
| I learn best when I listen quietly rather than speaking up in class | 37 |
| I think mainly about today, not tomorrow. | 27 |
| *Factor 6—NON-PASSIVE, STRUGGLING LEARNER* | |
| In many learning situations I feel unsure and uncertain. | 21 |
| I quickly understand things I learn, almost by intuition. | 32[a] |

[a]*Note.* This item is reverse worded. Forty-nine percent of subjects responded "neutral" to this statement, and 19% "disagree" or "strongly disagree," implying a large percentage of learners experiencing some learning difficulties.

years old. Fifty-four percent were urban while 46% were rural school students.

The specific items which described the six learning style preferences and the percentage of respondents who agreed with each item are shown in Table 1. These data suggest the general ways of learning which the majority of students preferred. Approximately six of ten students viewed themselves as "serious, analytical learners," as evidenced by the 57% to 73% who agreed with the statements which measured this characteristic. Additionally, about seventy-five percent of the subjects reported a preferred "active, practical learning" style. An "observation-centered learning" style was also reported by a majority of the respondents.

The remainder of Table 1 shows lesser utilized learning styles. A portion of the students often prefer passive learning, which may indicate learning problems. Students with such learning style may contrast sharply to the more active learners and need special attention. Note-takers and fact-gatherers, "detail, fact-oriented" learners appeared to be a small percentage in these classrooms. Finally a substantial number of students, perhaps one in five may be non-adaptive, struggling learners. This is a speculative characteristic, measured by only two items, but it is one of which teachers need to be both aware and sensitive.

Table 2 reports variations in preferred learning styles between students in rural and urban school settings. Only the percentage of subjects who fell into the combined "agree/strongly agree" category are reported in the table. This presentation provides a succinct summary of the major variations in preferred learning styles between students in rural and urban schools.

Statistically significant differences were observed between urban and rural students on fifteen statements shown in Table 2. Twelve of the significant differences showed a probability beyond the .01 level of confidence. The strongest findings indicate that rural students tended to be significantly higher on serious, analytical learner and active, practical learner characteristics. Differences on other learning style characteristics are not as large, though significant findings were noted for the characteristics of observation-centered learner, concrete learner, and passive learner. Rural students tended to be more in agreement on these than urban students.

## CONCLUSIONS AND IMPLICATIONS

This research examined preferred learning styles of selected secondary school students, and found important learning style characteristics including (1) serious, analytical learner, (2) active, practical learner, (3) observation-centered learner, (4) passive, accepting learner, (5) concrete, detail, fact-oriented learner, and (6) non-adaptive, struggling learner. Significant variations were noted between students in urban and rural schools.

This study clearly indicates rural and urban students are different in their learning styles. Findings suggest that students in rural schools appear to be more concerned and engaged in the educational process than urban students. A larger proportion of rural students appeared to be serious analytical learners and active, practical learners. From the teacher's point of view, this represents a desirable characteristic of rural learners. It may also appear, from a teacher's perspective, that teachers in rural settings do not experience the same magnitude of potential learning problems as a function of learning style as do their urban counterparts. Therefore, it is evident that teachers in rural settings should plan for students with more serious and active learning styles.

The results provide a relatively complete profile of individual learning styles, suggesting important modes of learning and individual differences as well. Once a teacher knows the profile of learning style characteristics of students in his/her classroom, teaching strategies can be best utilized to take advantage of learners' preferences. Students who are taught in the modes in which they are most comfortable are likely to feel more confident and competent. Individuals having non-adaptive learning characteristics may be identified for special attention as well. Simply knowing students' learning style preferences will not identify a single teaching strategy best for all students, but it does suggest a range of alternatives and those most likely to succeed.

One special application of these profiles is to help students understand how they best prefer to learn. Most students prefer some learning styles over others, and use of a simple paper and pencil measure such as the *Secondary Learning Styles Inventory* may help students better realize their preferences. It also helps students to know that teachers care about their learning, and want to assist

**TABLE 2**

Variations in Learning Style Preferences
Between Students in Urban and Rural Schools

| Statements Measuring Learning Style Characteristics | Agreement | |
|---|---|---|
| | Urban % | Rural % |
| *SERIOUS, ANALYTICAL LEARNER* | | |
| I like to think things out rationally and carefully. | 57 | 63** |
| In learning, I value careful and logical thinking. | 51 | 64** |
| I enjoy thinking through difficult things and making wise decisions. | 54 | 61** |
| I think seriously and think back on what I learn. | 51 | 64** |
| I enjoy putting together new ideas and thoughts. | 63 | 70** |
| I like hearing about new ideas and facts. | 71 | 76** |
| *ACTIVE, PRACTICAL LEARNER* | | |
| Actually doing things is my preferred way of learning. | 72 | 77** |
| I learn more through actual experience and practice with a subject. | 77 | 84** |
| I prefer learning actual practices, not theories. | 62 | 68** |
| I enjoy doing experiments to see how things work. | 74 | 79* |
| I learn well from practical and useful activities. | 74 | 79** |
| I learn things well when I'm emotionally involved and excited. | 66 | 70 |
| *OBSERVATION-CENTERED LEARNER* | | |
| I learn well by watching what others do. | 63 | 65 |
| Observing is a good way for me to learn. | 75 | 81** |
| *CONCRETE, DETAIL, FACT-ORIENTED LEARNER* | | |
| I enjoy taking notes and writing down facts I learn. | 16 | 19 |
| I like to look at things in detail, breaking them down into separate parts. | 39 | 44* |
| *PASSIVE, ACCEPTING LEARNER* | | |
| I usually accept things I learn without questioning them. | 20 | 21 |
| I learn best when I listen quietly rather than speaking up in class. | 34 | 40** |
| I think mainly about today, not tomorrow. | 25 | 30* |
| *NON-ADAPTIVE, STRUGGLING LEARNER* | | |
| In many learning situations I feel unsure and uncertain. | 20 | 23 |
| I quickly understand things I learn, almost by intuition. | 32 | 33 |

* $p < .05$
** $p < .01$

learners in the best way possible. Teachers may then help students recognize the need to enhance their learning capabilities as well, by emphasizing less frequently used ways of learning. While learning in a new mode at first presents students with a struggle, for example detail and fact-oriented learning, once the struggle is overcome the student may well develop a more complete, mature and integrated approach to learning.

In conclusion, the characterization of students' learning styles is a new tool for the teacher. This research has demonstrated a helpful approach, and it has shown major characteristics of learning styles which appear to vary between rural and urban students. Continued research is required to complete this characteristic of general learning styles and the unique characteristics of the rural learner.

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