4-7-1999

The relationship between learning process and students who play a band instrument

Tinamarie C. Stanfa
Rowan University

THE RELATIONSHIP BETWEEN LEARNING PROCESS AND
STUDENTS WHO PLAY A BAND INSTRUMENT

By Tinamarie C. Stanfa

A Thesis
Submitted in partial fulfillment of the requirements
For the Master of Arts in Subject Matter: Music

in the Graduate Division of Rowan University

1999

Approved by
Professor

Date Approved___4/7/99___

ABSTRACT

Tinamarie Celeste Stanfa

The Relationship Between Learning Process And

Students Who Play A Band Instrument

1999

Thesis Advisor: Dr. Lili M. Levinowitz

Master Of Arts: Subject Matter Teaching Music

Graduate Division Of Rowan University

The purpose of this study was to examine the learning processes of students who play a band instrument. The problem was to see if all band students process learning in the same manner.

Prior to the study, the researcher sent a letter to the building Principal and Board Of Education to get permission to conduct the research. Next, the researcher sent a permission slip-letter home to all band parents explaining the purpose of the study and what the results of the study would be, if they choose to know.

Once all the responses were received, the researcher administered the Learning Combination Inventory (LCI), to all band students. The study involved sixty-one band students in grades seven and eight. The LCI is a test that helps teachers and students learn how they process information; sequentially, precisely, technically, or confluently. Following the test, all students were to score his/her test to find out what learning process was significant to him/her. Once the students found out what their learning process was, the researcher checked the scores which gave the students his/her learning style. Once the process was verified, the students were able to look on a sheet that identified his/her learning process. This sheet made each student aware of the things that are unique to his/her specific learning process.

After all the tests were completed, the researcher broke the results into sections; woodwind, brass and percussion. The conclusion was that the majority of band students in this research learn best through technical processing.

MINI ABSTRACT

Tinamarie Celeste Stanfa

The Relationship Between Learning Process And

Students Who Play A Band Instrument

1999

Thesis Advisor: Dr. Lili M. Levinowitz

Master Of Arts: Subject Matter Teaching Music

Graduate Division Of Rowan University

The purpose of this study was to examine the learning processes of students who play a band instrument. Sixty-one band students were administered The Learning Combination Inventory, which is a measurement that identifies a person's learning process; sequential, precise, technical or confluent.

The result of the study was that the majority of band students in this research learn best through technical learning.

ACKNOWLEDGEMENTS

I would like to take this opportunity to thank Dr. Lili Levinowitz for her time and assistance. She has helped me meet this goal through her encouragement and enthusiasm, especially since I was having some fears about completing my thesis.

I would also like to thank all of my family, colleagues, and students for their support. If it was not for them, through their support, this study would have not been possible.

A very special thank you to my mother and father for their economic and emotional support. And to my husband, for putting up with this through our first year of marriage.

I would like to dedicate this thesis to the loving memory of my Grandfather, Chester Contino, who was there through every recital, concert and graduation and, I know in my heart, would have been the first one to say, " I am really proud of you. You got your Masters."

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE

Introduction

According to Gary Fenstermacher, " Education is not something we do to people; education is something people do for themselves-assisted we hope by the efforts of teachers" (Johnston, 1997-1998)[1] . It is the job of all educators to make sure that all students are learning the most that they can learn. But, how do educators really know how a student is actually learning when they assess them by administering homework, quizzes and tests only?

For many years educators have been researching how students learn. Some have titled learning as a process and others as a style. Whether you look at learning as a style or a process, psychologists and researchers all agree that learning is as follows: 1) cognitive, which is the information control center, 2) conative, which is skills of fluidity, dexterity, mobility, and coordination, and 3) affective, which is a learners feelings and emotions. In addition, learning also possesses physiological traits that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment (Fierro, 1997)[2] .

[1] Johnston, Christine A., "*Using The Learning Combination Inventory*", Educational Leadership, December 1997/January 1998: p 82

[2] Fierro, Darlene, " *Is There A Difference In The Learning Style Among Cultures?*", Publication 1997: p 4
[2] Fierro, Darlene, "*Is There A Difference In The Learning Style Among Cultures?*" , Publication 1997: p 5

Several measurements have been developed to find out how students learn. First, the Kolb's Theory Of Learning, proposes that the cycle of learning begins with learners involvement in a specific experience (Fierro, 1997)[3]. That is, it starts in the concrete. Then, the learner reflects on this experience by looking at it in a variety of ways. From this experience, conclusions are made in a cognitive process called abstract conceptualization. The cycle is then completed when the learner takes action as a result of these conclusions, i.e. active experimentation.

The styles characterized by Kolb's Learning Theory are convergers, divergers, assimilators and accommodators. Convergers are learners who do best in taking tests where the problems have single solutions. Divergers are the opposite of convergers whereas they like to imagine and generate ideas. Assimilators are interested in the precise and logical development of theory. And finally, accommodators learn through active participation and experimentation.

A second method of Learning is Dunns' Learning Style Inventory (De Bello,1996)[4]. Dunn and Dunn describe learning in terms of a student's ability to master new and difficult academic information:

- in an environment of sound or quiet; soft or bright; warm or cool temperatures; and formal or informal seating.

- through consistent (versus inconsistent) motivation; persistence on task (versus a need for relaxation); conformity (versus non-conformity); and internally imposed (versus externally imposed) structure.

---

[4] De Bello, Thomas, C.; Guez, Richard, J., "How Parents Perceive Children's Learning Styles", Principal, November 1996

- alone, with peers, with collegial or authoritative adult, or with a variety of approaches (as opposed to a routine).

- auditorially, visually, tactually, and/or kinesthetically; during specific times of day; with or without snacks or liquids while learning; and passively (versus with frequent, mobility).

- globally (versus analytically).

The third learning measurement is the <u>Myers-Briggs Type Indicator</u> <u>(MBTI)</u>. The <u>MBTI</u> is a 126-item questionnaire which is used to assess four dichotomous dimensions: Sensing-Judging (SJ), Sencing-Perceiving (SP), Intuition-Thinking (NT), and Thinking-Feeling (NF). SJs learn best when curricular materials are concrete and instruction is well planned and routine. That is, SJ's learn best by repetition and step-by-step instruction. SPs learn through variety, action, and entertainment. NTs are students who are interested in developing theories and concepts and prefer strategies that promote discovery and experimentation. NF students prefer learning through cooperation and personalized applications of learning.

The fourth test is the Learning Combination Inventory (LCI). The LCI was developed to measure how students process information, perform learning tasks, and develop a sense of self when engaged in learning tasks that do not always come naturally (Johnston,1997)[5].

[5] Johnston, Christine A., "Using The Learning Combination Inventory", Educational Leadership, December 1997/1998, p.78

There are four behaviors of learning formed by the brain's interaction of cognition, conation, and affectation (Johnston,1998)[6]. These four are as follows:

1. *Sequential:* Learner wants clear directions; is neat orderly; and plans ahead. This learner states: "Tell me what to do."

2. *Precise:* These learners want the information, facts, take detailed notes; write exact answers like to take tests; read and write in a highly specific manner. They ask: "How can you help explain the world to me."

3. *Technical:* These students like to work alone figuring things out; need first hand involvement; like working with tools, and are problem solvers. These students tend to ask: "What is the problem here? What information do I need to correct this problem."

4. *Confluent:* Student wants to start before directions are given; take a risk; fail and start again; use imaginative ideas and unusual approaches ; improvise. These learners are unique; push to the limit; will not wait; and want to do their things their own way.

All of the learning processes of the Interactive Learning Model (ILM) that constitute the LCI are different from the others and unique in their own way. But, what is most exceptional is that each of the processes contribute to the other, which builds the gestalt of one's learning process combination.

4

---

[6] Johnston, Christine A., "Let Me Learn", Thousand Oaks, CA; Corwin/Sage Publications,1998,p.25

When comparing the learning theories of Kolb, Dunn and Dunn, and Myers- Briggs, one might notice that learning is a style and not a process; whereas, the LCI measures the learning process. In addition, by the concepts that Kolb, Dunn and Dunn, and Myers-Briggs are testing in their measurements, they are not finding out the process that occurs. They are looking for a particular style that is unique to each learner. It needs to be learned whether the processes of the Interactive Learning Model and of Kolb, Dunn and Dunn, and Myers-Briggs should be combined for future research.

Problem

Is there a common learning process among students who play a band instrument?

CHAPTER TWO

Related Research

Myers-Briggs Type Indicator
(MBTI)

How many times have you sat in a class and wished that the girl in front would stop asking so many questions? Or, how often did you think, "If only the instructor would just stay on track?" Have you ever wondered why you had to study for a test three days before it was administered, and the boy next to you never studied and received a higher grade? These are all connected to our personality types and our preferred learning styles. There are not any wrong or right ways to learn, just preferred learning combinations. The Myers-Briggs Type Indicator (MBTI) was developed by Isabel Myers and Katherine Briggs, to understand the differences and similarities that make up human personalities. It is based on the theory of Personality Psychologist Carl Jung, who said that personality traits are either inherited or innate. Psychological theory proposes that people have preferred modes of perception (sensing [S]/intuition [N]) and judgement (thinking [T]/feeling [F]), as well as attitudes which reflect their display of energy (extroversion [E]/ introversion [I]) and their adjustment toward the outer world (judging [J]/perceiving [P]). Myers-Briggs used Carl Jung's theory to develop a list of eight personality traits set into four continuums. They are:

1. Extrovert (E).....Introvert (I): the source of your motivation
                              (the world/inside yourself)

2. Sensing (S).....Intuitive (N): the way you gather information
(facts, figures/gut feelings)

3. Thinking (T).....Feeling (F): the way in which you make decisions
(your head/your heart)

4. Perceiving (P).....Judging (J): your approach to life
(organized/opened-ended)

These set of four preferences combine to form sixteen distinct personality types.

The sixteen personality forms are:

ISTJ	ISTP	ISFJ	ISFP
INTJ	INTP	INFJ	INFP
ESTJ	ESTP	ESFJ	ESFP
ENTJ	ENTP	ENFJ	ENFP

The Myers-Briggs Type Indicator is a questionnaire which is used to

identify your strongest to your weakest personality trait. Examples of some

questions are (www.Altavista.com):

1. Are you usually more interested in
   a. specifics?
   b. concepts?

2. Are you usually more
   a. tough minded?
   b.tender hearted?

3. At a party do you
   a. interact with a few known to you?
   b. interact with many, including strangers?

Once you have taken the test, each personality trait will be ranked from highest

to lowest to identify your individual personality characteristic. For example, if

you were administered the MBTI, and the result of your test from

7

highest to lowest was, Extrovert, Sensing, Feeling, and Judging, you would be an ESFJ learner. This means that you are a person who learns best by first, interacting with others; second, relying heavily on facts and you are realistic; third, you follow your heart; and fourth, you are closed minded and well organized.

Myers-Briggs Type Indicator can help you understand how to be more successful in the classroom and beyond. MBTI offers strategies for more effective study, better time management, better communication, more successful relationships, selection of courses and majors, and the development of your less preferred ways of learning, by enabling you to know what your most prevalent personality trait is.

I. The Interactive Learning Model
(ILM)

II. The Learning Combination Inventory
(LCI)

III. Let Me Learn Process
(LML)

How often have you given directions for a test and one of your students has decided to begin the test without directions? Have you ever had a student organize everything at this/her desk so that everything is geometrically aligned? Why is Gene always out in space when it is time to begin an activity? Why can't my students be ready to do what I want, when I want and how I want?

To have all students on task, in 1996, Dr. Christine A. Johnston developed the Interactive Learning Model (ILM). The ILM shows you how you

8

process information (cognition), perform learning tasks (conation), and develop a sense of self when engaged in learning tasks that do not always come naturally (affectation - related to affect) (Johnston 1997)[7]. Furthermore, everyone learns in his/her own unique way, which creates an individual pattern for learning. There are three elements that constitute LCI: cognition, conation, and affectation. The following are definations of the components that are unique to one's learning process:

1. Cognition is the act of how one processes information.
2. Conation is a persons natural skill.
3. Affectation is one's sense of self and values.

The combination of cognition, conation, and affectation creates four patterns for the behavior of processing information: sequential, precise, technical, and confluent. With these four patterns, Dr. Johnston created the Learning Combination Inventory (LCI). Each process is unique to each other and is part of every learner.

A sequential learner likes to follow a plan. The learner wants clear step-by-step directions and is very organized. A sequential learner asks questions such as: "What are the directions?" Do you have an example I can look at?" "May I see what students did last year?" and "What's another word for....?" A sequential learner will not start an assignment until he/she knows exactly what the completed assignment looks like.

The precise processor wants detailed information and wants to know what is going on. They ask questions and want to know the exact

---

[7] Johnston, Christine A., "Using the Learning Combination Inventory", Educational Leadership, December 1997 v55 n4 p78(5)

answers. These students often ask or state: "Don't make me guess." "I want to know exactly what is expected." When writing, you can expect this learner to write in a highly specific manner.

The technical learner is a "hands-on" learner. This learner likes to build things and are great with tools. Do not expect this learner to do well with paper and pencil assignments. These processors most often say, " I'd rather be home working on my own, or instead of taking a break, I'd rather keep working on my project."

A confluent learner likes to find his/her own way of doing things. They like to take risks, fail, and try again. These students often think that they have a "better idea than their teacher." Most unique to these learners is that they are imaginative.

The LCI is a tool that shows teachers their students' individual pattern of processing information. The LCI is divided into two sections. In the first section, students respond to twenty-eight questions with answers from "Never Ever to Always". An example of some questions are:

1. I feel better when I have time to double check my work.

| Never Ever | Almost Never | Some- times | Almost Always | Always |

2. I like to work with hand tools, power tools, and gadgets.

| Never Ever | Almost Never | Some- times | Almost Always | Always |

In section two, students are asked three questions in which they are asked to write a brief response. Their responses will validate the scores from part one.

Once the test is complete, each student may tally his/her score on the LCI Scoring Sheet. The final numbers will tell the student in which way he/she learns best. For example, if a student's final score is Sequential 25, Precise 24, Technical 18, and Confluent 26, this student is a confluent learner, and processes information best by taking risks, starting before directions are given, and wanting to do things hi/her way first. The student's second highest score was in sequential processing. What is also unique about this person is that he/she is very organized. The weaker of the four learning processes were precise and technical. This means that the student does not prefer to learn with detailed information and hands-on- projects.

The Interactive Learning Model and Learning Combination Inventory culminate the Let Me Learn Process (LMLP). In the LMLP model, students are informed of hi/her learning style. This knowledge allows students to take charge of his/her learning. Furthermore, students rarely feel labeled as they are now able to learn in a process that is unique to him/herself. This process envolves the teacher and the student working together at a level that is not frustrating to the student or the teacher. It becomes easier for the teacher to know how his/her students learn best and requires each student to do well.

While the MBI and the LCI are measurements that help guide teachers to know about each student, both are distinctive. The MBI is an identifier of what constitutes each individual's personality through personality traits. The LCI

identifies which trait is dominant, and one is more dominant than the other. Most unique about the LCI, however, is that it identifies a learning process and not a style or personality trait.

CHAPTER THREE

Design and Analysis

Sample

Sixty seventh and eighth grade students were selected from Edgewood Junior High School, Lower Camden County Regional School District Number One, in southern New Jersey. The students who attended this district came from families of diverse socioeconomic and ethnic populations. All students in this study participated in the band.

Procedures

Subjects who are in grades seven and eight were administered the Learning Combination Inventory (LCI). This test was used to measure the learning combination of students. Subjects took the test in place of a regularly scheduled band period.

To complete the LCI, students were to select one of five choices: never ever, almost never, sometimes, almost always, and always for twenty-eight statements. On a separate section of the test, there were three questions that required written comments where students were to explain what frustrates them most about learning, how they would like to show what they know, and how they would teach if given the opportunity. It was a requirement that the students

13

complete this section because their responses validated the numerical scores of the first part of the LCI.

When the test was completed, students were shown how to score part one, which determined their learning combination. After each student had scored his/her test, the researcher rescored the test to determine if all calculations were correct. This initial validity check made the inventory extremely reliable (Johnston, 1997)[8].

Upon calculating the scores for part one, the researcher read the responses of the three questions in section two. If a student scored high on the twenty-eight statements that were representative of a Sequential Learner then he/she would have responded to the questions: "I need to see a sample of the work before I begin" or "I like it when the teacher gives step-by-step directions." If the learner scores high in Precision, then he/she will say: "I want to know exactly what is expected" or Don't make me guess what I need to know. Tell me." Those who used a high degree of Technical Reasoning wrote: "I would rather be at home, working on my own" or "I wish we could do more projects." Finally, those students who score high in Confluence Frequency will write: " I am willing to try anything once", but will undervalue having to do what the teacher says, "especially when I have a better idea." Upon completing this section the researcher checked the responses to see if they matched one of the four patterns of learning. This made the validity of the LCI extremely reliable.

---

[8] Johnston, Christine A., *"Using The Learning Combination Inventory,"* Educational Leadership, December 1997/1998: p.79

Design and Analysis

Once the learning combination of all the students had been determined, the scores were categorized according to the most prevalent learning process: sequential learning process, precise learning process, technical process, confluent process, or combination (bridge) pattern learning process. Frequencies and corresponding percentages, for band members were calculated for each learning process.

CHAPTER FOUR

Results and Interpretation

The frequencies and corresponding percentages for woodwind students are presented in Table I. As can be seen in table one, thirty-eight percent of the woodwind section were sequential learners, thirty-three percent were technical processors, five percent were precise learners, fifteen percent were confluent and only three percent were bridge processors. It seems that the majority of the woodwind section learns best through sequential and technical processing.

Table I

Learning Processes of Thirty-Nine Woodwind Students

Learning Process	Total Amount	Percentage
Sequential	15	38%
Technical	13	33%
Precise	2	5%
Confluent	6	15%
Bridge	3	3%

As can be seen in Table II, there are thirteen students in the brass section. Out of this section, fifteen percent of the students were sequential learners, sixty-nine percent were technical processors, and fifteen percent were precise learners. Of the brass students, zero percent were confluent or bridge processors. Therefore, many brass students in this sample learn best through technical learning.

Table II

Learning Processes Of Thirteen Brass Students

Learning Process	Total Amount	Percentages
Sequential	2	15%
Technical	9	69%
Precise	2	15%
Confluent	0	0%
Bridge	0	0%

The frequencies and corresponding percentages for percussion students are presented in Table III. Of the percussion section, zero percent of the students were sequential, precise or bridge learners. The percentage of students who learn best through technical processing is eighty-eight. The percentage of students who learn best through confluent processing is twelve. Again, students in this sample learn best through technical processing.

Table III

Learning Processes Of Eight Percussion Students

Learning Process	Total Amount	Percentages
Sequential	0	0%
Technical	7	88%
Precise	0	0%
Confluent	1	12%
Bridge	0	0%

As can be seen in Table IV, sixty-one band students were tested over all. Of the band, twenty-nine percent were sequential learners, forty-nine percent were technical processors, seven percent were precise learners, eleven percent were confluent lerners and five percent were bridge processors. Therefore, the students in this band learn best through technical processing.

Table IV

Learning Process of Sixty-One Band Students

Learning Process	Total Amount
Sequential	17
Technical	30
Precise	4
Confluent	7
Bridge	3

Interpretations

Hands on learners fit best with the technical process and it seems that this type of learning is most prevalent in instrumental music students. To play an instrument, students must not only master cognitive music skills (audiation), but they must also transfer what they audiate to their instrument. This is known as technique in instrumental music. Constant practice continues and

strengthens the loop between technique and audiation. It seems reasonable, therefore, that students who prefer to learn in this technical way would excel at an instrument.

CHAPTER FIVE

Summary and Conclusion

Purpose and Problem of the Study

The purpose of this study was to examine the learning processes among of band students. The problem was to investigate if there was a common learning process represented for students who play an instrument.

Design and Analysis

On Friday October 9, the researcher sent a letter to the building principal, telling him about the research study that was going to take place. (Appendix A) On Wednesday, December 2, students brought home a permission slip explaining the purpose of the research study, when it was going take place and if the parents would like the results. (Appendix B)

On Friday, December 4, students were administered the Learning Combination Inventory (LCI). Before the actual testing, the researcher assured all students that this was not a test that would effect their grades and that the LCI is a measurement that was going to help them learn how they process information. Students were also told that they may keep the results of the test confidential. Next, students were read the directions and they completed

the sample section. Students were then instructed to complete both sections of the test. Once the second section was completed, students were to turn to the score sheet, read the scoring directions and score his/her test. When the scoring was comlpete, students were instructed to come to the front of the room with the results of his/her test and match the results with one of the four learning processes. The learning processes were listed on a sheet of paper on a music stand in the front of the room and each student was to identify his/her response from section two with the quotes from the learning process sheet. (Appendix C) This varified for the student his/her individual learning process. Once this was complete, students were able to identify themselves with the his/her appropiate Learning Combination.

Once all measurements were complete, the researcher rescored all tests and rechecked all the responses for section two. Completing this made the test more valid and reliable. the students were then grouped into sections: flute, clarinet, saxophone, trumpet, trombone, tuba, and percussion. (Appendix D) Each students' learning process was put next to his/her name. Then, the learning processes were grouped according to woodwind, brass, or percussion instruments. (Tables I, II,III, IV)

Results

The overwhelming majority of band students in this research were technical learners.

Conclusions and Recommendations

Based on the data acquired from this study, it can be concluded that there is a common learning process among students who play a band instrument. That common learning process is the technical learning process. Future studies are recommended with choir and orchestra students.

APPENDIX A

Mr. Cliff Matthew,
Principal Of Edgewood Junior High School
200 Coopers Folly Road
Atco, New Jersey 08004

Tinamarie C. Stanfa
28 Santalina Drive
Sicklerville, New Jersey 08081

                                                    October 9,1998

Dear Mr. Matthew,

I am presently completing my requirements for Master In Subject Matter Teaching:
Muisc, at Rowan University. To fulfill the requirements for graduation, I will be writing
my thesis on Learning Styles. The purpose of my study will be to find out what type of
learning style is represented by students who play an instrument in the band. Will it be
a precise, technical, sequential, or confluent learner?

In order to find out which of the four styles represents the learning abilities of the
students, students will be administered the Learning Combination Inventory
constructed by Dr. Christine Johnston and Gary R. Dainton, of Rowan University.
(Please find a copy of this test attached to this letter.) I feel that this study will allow for
improved techniques in my teaching in order to better serve the educational needs of
the students. I am asking for your permission to complete this study with the band
students of Edgewood Junior High School for the school year 1998 - 1999. If you
have any questions please let me know.

Sincerely,

Tinamarie C. Stanfa

cc: Dr. Michael Schreiner
    Mr. Greg Marshall

APPENDIX B

26

Edgewood Junior High School Band
Research Study Permission Slip

Dear Parents,

I am currently writing my thesis in partial fulfillment for my Masters in Subject Matter Teaching: Music, at Rowan University. The purpose of my study will be to find out the Learning Styles of band students. Therefore, I will be administering a test called the Learning Combination Inventory (LCI).

To complete the LCI, students will choose one of five responses, ranging from "Never Ever" to "Always" for twenty-eight statements. Second, students will respond to three questions about what frustrates them when learning, what they would do to show off what they have learned, and what is most memorable and enjoyable about learning. The results of this test will be kept strictly confidential and will not effect your child's grade. If you have any questions, please contact me at 767.7222.

Sincerely,

Tinamarie C. Stanfa

Please return this consent form by Wednesday, December 2, 1998.
Test will be administered Friday, December 4.

_____ I here by grant permission for Mrs. Stanfa to test my child _____ ,
to determine his / her Learning Style.

I would be interested in learning the results of my child's Learning Style.

_____ yes   or   _____ no

Parent Signature _____

Child's Grade_____ Child's Instrument _____

APPENDIX C

Sequential
- I want clear directions.
- Tell me what I need to know.
- Neatness
- Order
- Planning

Precise
- I want information.
- Tell me the facts.
- Detailed notes, exact answers
- Reads and write in a highly specific manner
- How can you help explain the world to me? If so, then what?
- Constantly seeking more information
- Tests
- Researched Answers

Confluent
- Start before directions are given; take a risk; fail, and start again, use imaginative ideas and unusual approaches; improvise
- Pushing the limits
- I'm willing to try anything once.
- Unique
- Makes own way of doing things.
- Won't wait.
- "Different drummer"

Technical
- I like to work alone figuring things out.
- Actions speak louder than words.
- What is the problem here?
- What information do I need to know to correct this problem?
- I need first hand involvement.
- these learners process gadgets, gizmos and machinery
- Hands-on/Tools
- Problem solver
- Autonomous

BIBLIOGRAPHY

De Bello, Thomas C,; Guez, J., How Parents Perceive Children's Learning Styles. Principal, November 1996, Vol. 76, No. 2, p. 38 - 39

Fierro, Darlene, Is There A Difference In Learning Style Among Cultures? Publication 1997, 19p

Heywood, John, An Evaluation Of Kolb's Learning Style Theory By Graduate Student Teachers During Their Teaching Practice, February 1997

Horton, Connie Burrows; Oakland, Thomas, Temperament - Based Learning Styles As Moderators Of Academic Achievement, Adolescence, Vol. 32, No. 125

Johnston, Christine A., How Do We Learn? p. 1 - 4

Johnston, Christine A.; Daiton, G, Learning Combination Inventory, Form II, Thousdand   Oakes, CA: Corwin Press/Sage Publications, 1997

Johnston, Christine A., Learning Styles And Alternative Assessments: "Kids Stuff" Or The "Stuff" Of Adult Learners In Educational Administration? For the annual meeting of the American Educational Research Administration, April 8, 1996, New York, New York

Johnston, Christine A., Let Me Learn, Thousand Oakes, CA; Corwin Press/Sage Publications, 1998

Johnston, Christine A., Unlocking The Will To Learn, Thousand Oakes, CA; Corwin Press/Sage Publications, 1996

Johnston, Christine A., Using The Learning Combination Inventory, Educational Leadership, December 1997/January 1998, p. 78-82

King, Jeffery M., Brain Function Research: Guideposts For The Brain Compatible Teaching And Learning, Journal Of Educational Research, 1997, v. 46, No. 4, p.27 -288

Kosower, Evie; Berman, Nancy, Comparison Of Two Learning Style Studies: Implications For Generalists Education, Reports - Research/Technical, 25p., 1996

Van Tassel-Baska, Joyce, Excellence In Educating Gifted and Talented Learners, Third Edition, Love Publishing 1998, Chapters 1, 2, 3, 9, 11, 13, 14, 21, and 25

Warren, Bonnie Z., Personality, Learning Style, Gender and Ethnic Characteristics Of Students Attending Supplemental Instruction, Spring of 1997 at the University of Central Florida, 15p.; Paper presented at the Annual Teaching/Learning Conference in Ashland, KY, October 10-11, 1997

Willis, Scott, On the Cutting Edge Of Assessment, Testing What Students Can Do With Knowledge, Education Update, vol. 38, No. 4, June 1996, p. 3-7