

WHAT IS THE CORRELATION
BETWEEN RISK-TAKING BEHAVIORS
AND LETTER RECOGNITION
IN KINDERGARTEN STUDENTS?

THESIS

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by

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Abstract

This study attempted to determine whether there was a significant correlation between the letter recognition ability of kindergarten students and their risk-taking characteristics in the classroom. To achieve this purpose, letter recognition scores from November report cards were used, along with teacher input regarding risk-taking behaviors.

One hundred ten kindergarten students from an upstate New York suburban community were the subjects for this study. Eleven participating teachers listed the five students in their class who exhibited the most risk-taking behaviors in the academic setting and the five students in their class who exhibited the fewest risk-taking behaviors in the academic setting. After the researcher collected the data, the teachers then recorded these students' letter recognition scores and submitted them to the researcher. A point-biserial correlation was used to analyze the data.

The results of the study found a strong, significant relationship between letter recognition knowledge and risk-taking characteristics in kindergarten students.

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CHAPTER I

Introduction to the Problem

Purpose

The purpose of this study was to determine if there is a statistically significant correlation between risk-taking behaviors and letter recognition in kindergarten students.

Research Question

Is there a statistically significant correlation between risk-taking behaviors and letter recognition in kindergarten students?

Need for the Study

Little research has been completed on risk-taking in the field of education. It can also be difficult to define accurately and to measure risk-taking for the purposes of a study. Risk-taking behaviors are linked to personality traits and cannot be measured by a single assessment. However, risk-taking behaviors are observable to the classroom teacher who works with children each and every day. In addition, risk-taking seems to be a critical component in the reading process (Smith, 1994). Since risk-taking ability and letter recognition are essential to early reading success; this study was designed to determine if there is a

significant correlation between the two characteristics (Riley, 1996).

When young children enter kindergarten many teachers find a significant range not only in letter knowledge, but in risk-taking behaviors. As children are screened at the beginning of the year, some children will shrug their shoulders for each letter shown, while others will make attempts to describe the features of a letter or begin to make associations between letters and the people and things with which they are familiar. Some students know the names of all the letters of the alphabet while others do not know the names of any. What is the connection between their letter knowledge and their willingness to take risks in an educational setting? The results of this research may provide teachers with further understanding of risk-taking behaviors and the best methods to foster risk-taking in the classroom.

CHAPTER II

Review of the Literature

Purpose

The purpose of this study was to determine if there is a statistically significant correlation between risk-taking behaviors and letter recognition in kindergarten students.

Risk-Taking and the Environment

Many educators believe that a willingness to take risks benefits a student's learning. Teachers have been encouraged to create nurturing classrooms where all children are eager to participate (Young, 1991). Young children, especially, should feel safe and comfortable in their learning environment so that knowledge and information can be freely shared, without the fear of humiliation or harsh criticism. In describing an appropriate learning environment, Fountas and Pinnell state, "The setting is safe and supportive and enables all learners to develop confidence, take risks, learn to work independently, and develop social skills" (1996, p. 43). Hickerson (1989) advocates incorporating humor in the classroom and establishing an environment conducive to original expression and risk-taking. Actually, a risk-taking atmosphere is one of the suggested principles to guide practice for adult beginning reading, too (McCabe, 1991).

Thayer-Bacon and Bacon (1996) describe a model of a caring

teacher. They argue that caring encourages student growth and learning and creates a safe environment for risk-taking. Otherwise, students who are fearful in school may be hindered to learn and to use their creativity. They outline the benefits, limitations, and other consequences of this approach to teaching. Their article specifically addresses post-secondary classroom environments; however many characteristics would probably apply at other levels.

Risk-Taking and Learning

Many educators hold the same belief that risk-taking should be modeled and/or taught to children. Galbraith states (1994) that the instructional principle of modeling risk-taking behaviors makes the self-esteem of learners grow. Kraizer (1990) believes that risk-taking should be explicitly taught as a skill. She feels that life skills, such as risk-taking, are best learned through curriculum-centered instruction, starting at the prekindergarten level. She believes that risk-taking is one of the areas that has a direct impact on children's ability to cope with the stresses of growth and development. Risk-taking is one of the key factors in the balanced pursuit of excellence that allows a person to challenge oneself without being a perfectionist who can be harshly self-judging (Addrholdt-Elliott, 1990). Biemiller (1986) conducted a study which indicates risk-taking ability is one of the factors which contributes to thriving in school. His study examined the intellectual, academic, social, self-directive, and temperamental characteristics of children from kindergarten to grade

four. Kindergarten teachers perceived their students as “thriving”, “making average progress” or “not as yet thriving”. Data were obtained with regard to testing in language, memory, academic achievement, as well as teacher-rated data on self-direction, resistance to distraction, social abilities, resistance to frustration, and risk-taking. Children who made a “shift” in thrive status had corresponding changes in achievement tests and teacher ratings. Therefore, it seems risk-taking is one of the characteristics which helps determine a child’s ability to thrive in school.

Mariage (1995) studied patterns of reading-related classroom dialogue of low-gaining and high-gaining special education teachers. Participating teachers were college seniors in a 10-week practicum experience in special education. The study focused on 15 teachers who were rank-ordered based on the average net gain of the students’ free written recalls (to assess reading comprehension) from pretest to post - test conditions. The teacher whose students showed the greatest average increase in total ideas recalled from pretest to posttest was given the rank of “1”, and so on. When the analysis was done on the types of ‘teacher talk’ that existed in these classrooms, he found that high-gaining teachers spent considerably more time encouraging risk-taking in their students.

Clifford and Chou (1991) conducted a study where fourth grade Taiwan students completed 2 cognitive risk-taking tasks. They found that academic risk taking remained substantially below the optimum level.

Low risk taking was observed despite the fact that task interest was high. The "payoff factor" accounted for the majority of the risk-taking variance. The researchers felt that the avoidance of moderate risk may be best explained by the reinforcement practices prevalent in schools.

To encourage moderate academic risk taking, educators undoubtedly will need to modify both the nature and focus of reinforcement practices. Internal and task-relevant rewards must be substituted for task-irrelevant rewards and the focus on errorless learning and "perfect papers" must be replaced with a focus on (a) moderate risk taking, (b) tolerance for error making and failure, and (c) error correction and skill development. Educators must provide for and reinforce the selection of challenging tasks, the setting of increasingly higher goals, and the self-monitoring and evaluation of performance, these are elements essential to the concept of flow. Just as extraneous rewards have been shown to have hidden costs for multiple measures of intrinsic motivation, the reinforcement of high levels of academic success can be expected to have hidden costs for academic risk taking as well as cognitive development. (p. 505)

These same researchers who found the above-mentioned results when studying Taiwanese students also conducted a study using American students and found many similarities (Clifford & Chou, 1989). They found: sex differences in academic risk-taking are trivial, academic risk-taking tends to be higher for American students than for Chinese students, and academic risk-taking is low relative to the theoretically optimum risk level of .50. In their discussion section, the authors again stress that,

As long as educators assign tasks (even with the best intentions of matching student ability with task difficulty) rather than provide risk-taking opportunities, reward high levels of success rather than

the selections of challenging tasks, provide fixed rather than variable payoff, and use salient external constraints (teacher-administered rewards, punishment, threats, and evaluation) to regulate learning, low academic risk-taking is likely to be evidenced. (p.336)

While Clifford and Chou found academic risk-taking differences based on gender to be trivial, a study by Ginsburg and Miller (1982) studied children at the zoo and found sex differences in risk-taking. While this study is not in the academic arena, it is still of interest. The researchers observed 480 three- to eleven-year-old children at the San Antonio Zoo. While girls were just as likely as boys to enter the zoo, at all four of the risk-taking situations, significantly more boys than girls engaged in risk-taking behavior.

Risk-Taking and Reading

In learning to read, children need to be willing to make attempts at the unknown to become successful readers. According to Smith (1994),

There is one other reason why children might turn their faces against learning, and that is its risk. In order to learn you must take a chance. When you test a hypothesis, there must be a possibility of being wrong. If you are certain of being right, there can be nothing to learn because you know it already. (p.191)

Schoen (1988) believes that two fundamental assumptions of language learning provide a foundation for understanding literacy. The first is the fact that the child makes the same decisions that an adult makes in searching for meaning, involving cognitive strategies. The strategies include: a constant search for meaning, hypothesis testing, alteration of

ideas because of hypothesis testing, and taking risks. The second is that there are eight patterns within the literacy process that all language learners incorporate. One of these is risk-taking. Since risk-taking is both a strategy and a pattern used in developing literacy, it is a fundamental aspect of reading.

Glazer (1997) proposes a plan to help students become responsible, risk-taking learners. She suggests providing children with a progress report form where they record what they know, and what they need to learn. Her belief is that urging students to express what they know about themselves promotes risk-taking.

Professional Risk-Taking

-Risk-taking is critical, not only in learning to read, but in other academic areas and in real-life situations. While there does not seem to be much research in this area, there are many educators who agree that risk-taking is critical far beyond the elementary school years. In fact, Clark and Guest (1995) believe that more risk-takers are needed in the field of education. Traditionalists currently make up the majority of the teaching force. According to their article, more visionaries and troubleshooters will be required in tomorrow's classrooms as their roles include being motivators, mentors, counselors, and guides. Rothberg and Hill (1992) also stress that a principal must clearly value risk-taking for staff and students to flourish. Effective high school leaders often are high-flying risk takers. Risk-taking principals actively identify and solve

problems. They urge others to try new approaches rather than just discussing them (Pellicer, 1990).

Breault (1991) emphasizes preservice and inservice teacher education as the key to school reform. He states that teacher education programs should be designed to nurture adaptability, reflection and professionalism. Clinical experiences that encourage risk-taking and even failure should be one of their characteristics.

Kline and Saunders (1993) discuss ways to improve efficiency in the workplace. Their steps show how to develop and to sustain an environment favorable to learning at any level. They agree that rewarding risk-taking is one of the critical steps in building a learning organization. The other nine steps are to: assess the learning culture, promote the positive, make the workplace safe for thinking, help people become resources for each other, put learning power to work, map out the vision, bring the vision to life, connect the systems, and get the show on the road.

While risk-taking may be somewhat difficult to describe specifically, or to measure using an assessment tool, risk-taking behaviors are observable to the classroom teacher who works with children each and every day. The primary classroom teacher who typically spends 6 - 7 hours with the same group of children each day has a picture of a student's willingness to take risks since he/she sees the child in a variety of situations, such as whole group instruction, small group instruction, independent tasks, as well as social situations.

Letter Recognition

While risk-taking is one attribute which contributes to reading success, there are many others. Letter recognition is a key component in early literacy development. The ability to identify and label the letters of the alphabet is one of the most powerful predictors of successful reading by the end of the kindergarten year (Riley, 1996). "In kindergarten, children also learn to recognize and name the upper- and lower-case letters so that the information letters provide is more available to them" (Fountas & Pinnell, 1996, p. 4).

Laurita (1988) stated that:

Based upon what is now known about language acquisition, it should be clear that the preeminent skill required for the development of secure reading and writing ability in the child about to embark on the significant task of learning how to receive and express his own language in its print symbolic form, is facility with the individual elements of the twenty six letter English alphabet. (p. 293)

As they present the results of two British studies relating preschool reading skills and reading attainment reached by age 11, Blatchford and Plewis (1990) substantiate the correlation between early letter identification with subsequent reading ability. Furthermore, they find no support for the hypothesis that letter sounding rather than letter naming predicts reading achievement. Naslund and Schneider (1996) studied this same topic and found contrasting results. Their study involved 134 German students. It compared the predictive value of kindergarten phonological awareness tasks and letter knowledge and first and second

graders' literacy performance. Kindergarten letter knowledge reliably predicted later literacy skills. The researchers found that phonological awareness tasks varied in prediction of later literacy but were better predictors than letter knowledge.

Children may be able to recognize the letters in their name or in the names of family members. Perhaps they associate the letter 'M' with the big yellow 'M' on McDonald's signs. The students with the ability to recognize letters can begin to make associations between letters and known people and elements of their world. This ability is critical in developing students who have the ability and interest to read. Riley (1996) found that there is ample evidence of an absolute need for clear individual letter recognition from the outset of instruction.

CHAPTER III

Design of the Study

Purpose

The purpose of this study was to determine if there is a statistically significant correlation between risk-taking behaviors and letter recognition in kindergarten students.

Methodology

Subjects

The subjects of the study were kindergarten students selected from one suburban school district in Monroe County. The students had been identified by their classroom teachers as either a risk-taker or non-risk-taker using a pre-designed guideline. (Appendix B) Eleven kindergarten teachers were requested to identify their top 5 risk-takers and top 5 non-risk-takers (Class size = 22 - 25 students) A total of 110 students were used in the study, with 55 considered risk-takers and 55 considered non-risk-takers.

Materials

The following materials were used in this study:

Participation request letter (Appendix A)

Researcher developed guideline / teacher selected risk-takers and non-risk-takers (Appendix B)

Follow-up letter requesting letter recognition scores for selected students (Appendix C)

Letter recognition scores. The November letter recognition scores were available to all teachers in this district as they were included in November report cards.

Procedures

The researcher requested participation from 14 kindergarten teachers (Appendix A). Participating teachers (11 of the 14) provided a list of 5 risk-takers and 5 non-risk-takers, based on the pre-designed guideline (Appendix B) and their classroom observations.

Letter recognition scores for the selected students were obtained from classroom teachers after all the names of selected students had been submitted. The November scores for letter recognition were used. All participating teachers had records of these scores from first quarter report cards.

Analysis of Data

A point by serial correlation was used to analyze the results.

CHAPTER IV

Analysis of the Data

Purpose

The purpose of this study was to determine if there is a statistically significant correlation between risk-taking behaviors and letter recognition in kindergarten students.

Null Hypothesis

There is no statistically significant relationship between kindergarten students' letter recognition knowledge and their risk-taking characteristics in the classroom.

Findings and Interpretations

The data collected from the participating teachers were analyzed using a point-biserial correlation. The continuous measure was the student's letter recognition score and the dichotomous measure was whether the child was considered a risk-taker or non-risk-taker by the classroom teacher.

Table 1

Correlation between letter recognition and high or low risk-taking characteristics among kindergarten students

	<u>High Risk-Takers</u>	<u>Low Risk-Takers</u>
Number	55	55
Total letter recognition scores	2432	1253
r_{pb}		+0.546

< .001

To test the significance, a t test was utilized. According to a statistics table, this t value is significant beyond the .001 level. Therefore, the correlation is statistically significant. This study found there to be a strong, positive relationship between early letter recognition in kindergarten and risk-taking behavior in the classroom. Higher letter

recognition scores were significantly related to risk-taking behaviors, while lower letter recognition scores were significantly related to non-risk-taking behaviors.

CHAPTER V

Conclusions and Implications

Purpose

The purpose of this study was to determine if there is a statistically significant correlation between risk-taking behaviors and letter recognition in kindergarten students.

Conclusions

This study found there to be a significant positive correlation between letter recognition and risk-taking behavior in the kindergarten classroom. Generally, the students who were categorized as risk-takers by their teachers had higher letter recognition scores than those students who were seen as non-risk-takers in the classroom. Results were received from 11 kindergarten teachers in the same school. It was interesting that several teachers had risk-takers who all possessed high letter recognition scores and non-risk-takers who all had low letter recognition scores, while other teachers had a mixture of both types of scores in both risk-taking groups.

The researcher found much dialogue arose from the study. The colleagues who participated showed much interest and curiosity toward the study. Many teachers discussed the changes they had seen in their

students since earlier in the year. Teachers had categorized children as risk-takers or non-risk-takers in January and February. They then used the childrens' November letter recognition scores for this study. Two teachers mentioned that their risk-takers and non-risk takers have switched as the school year progressed. They found that students who entered school with strong letter recognition were less apt to try things that were new or unknown, whereas students who came to school with little letter knowledge had eagerly tried invented spelling and free writing. One teacher mentioned how surprised she was by the strong correlation that she found when she went back to their November report cards to record the letter recognition scores. A few teachers said that they would be interested in seeing follow-up scores for the children, wondering whether or not risk-takers learn at a quicker rate. Several other teachers expressed interest in the results. There was much dialogue that resulted from the research.

Implications for Teachers

The results of this study indicate there is a significant positive correlation between letter recognition in the beginning of kindergarten and risk-taking behaviors in the classroom. However, the study does not give any indication which of these variables came first.

Are risk-takers more likely to take academic risks before entering school which contribute to their letter knowledge?

Are students who have been taught letters before kindergarten more confident and therefore more willing to take risks in school?

These questions remain unanswered; but most educators would agree that both factors contribute to school success. With this in mind, these recommendations follow:

1. Elementary school principals and/or kindergarten teachers can send an information packet to parents of incoming kindergarteners suggesting fun and natural ways that parents can introduce their children to letters before entering school.
2. Kindergarten teachers can hold an information night for parents in the spring before their child will start school to model and discuss, in further detail, ways to introduce letters to children.
3. Suggestions for ways to encourage children to try things and make attempts can be given to parents in the same ways mentioned (information packet and/or information night). Teachers can give some examples of things teachers encourage children to try to do at school in kindergarten.
4. Considering there were discrepancies in terms of the strength of the correlation across different classrooms, teachers could come together as a grade level to discuss how they encourage risk-taking and participation from all students, especially those who struggle academically.
5. Teachers should be made aware of the importance of academic risk-taking in school success.

Implications for Further Research

1. As mentioned by colleagues, a follow-up of student achievement over time would be an interesting extension of this study.
2. A questionnaire could be given to teachers to research ways they foster risk-taking in their classrooms.
3. Beginning a similar study within the first two weeks of the school year would give an even more accurate picture of what students initially come to school knowing and how they approach new situations.

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Appendix A

January 1998

Dear Colleague,

HELP!

(PLEASE DON'T THROW THIS AWAY)

I am completing my graduate studies at SUNY Brockport and am currently working on my thesis to complete my Masters in Reading. Your assistance would benefit my project considerably. **If you are willing to participate, I will need approximately 10 minutes of your time.** Here's what's involved:

Step 1. Read the attached descriptions of risk-takers and non-risk-takers. Take 5 minutes to think about your class and return this paper to my mailbox with a list of your Top 5 Risk-Takers and Top 5 Non-Risk-Takers. Please complete and return by Wednesday, January 14.

Step 2. Shortly thereafter, I will return your list to you and request one other item of information for each child selected. It shouldn't take more than 5 minutes to complete and return to my mailbox.

I insure the anonymity of teachers and students involved. No names will be included in my study.

That's it. That's all. Nothing more!

Plus, all teachers who complete steps 1 and 2 will receive a token of my appreciation. Thanks!

Sincerely,

Michelle DeLong

Appendix B

Teacher's name _____

Please complete and return by Wednesday, January 14.

All information submitted is confidential. I assure the anonymity of teachers and students.

Risk-taker - willing to make predictions and guesses; readily tries new activities; participates in small group and large group discussions

Non-risk-taker - regularly says, "I don't know" when asked to make a guess / prediction, often shrugs shoulders; rarely volunteers to participate in a group

When thinking about your own classroom, who are your biggest risk-takers?

Please feel free to use first names only or initials.

Top 5 Risk Takers

1. _____
2. _____
3. _____
4. _____
5. _____

Which students are least willing to take risks?

Top 5 Non-Risk-Takers

1. _____
2. _____
3. _____
4. _____
5. _____

Thank you, thank you!

I will return this form to you requesting you to supply me with 1 more piece of information on these 10 students.

Please return to my mailbox. - Michelle

Appendix C

Thanks for your participation.

Now, I have returned your original sheet to you. Please take about 5 minutes to locate and record each child's **November** letter recognition score. (from their report card)

Just write the number you have on record down next to each child's name or initials. (Please include both upper and lowercase.)

For example

- | | |
|------------|-------|
| 1. John | 10/52 |
| 2. L. C. | 25/52 |
| 3. Melissa | 6/52 |

You're finished. Please put in my mailbox.

Along with having the satisfaction of helping a colleague in need, you will receive a small reward.

Thanks again, Michelle