Running Head: Sight Reading

A SURVEY OF THE USE OF SIGHT-READING IN THE CHOIR CLASSROOM WHILE ASSESSING SIGHT READING SCORES BY CHOIRS AT DISTRICT CONTESTS

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Abstract

This paper will explore vocal music educators in the state of Missouri in regards to using sight reading methods in the choral classroom and relating those methods to the scores that their choirs have received at district contest the year they used those methods. Approximately fifteen vocal music educators elected to partake in the study. This study used a survey from discussion with educators and future educators to collect appropriate questions that should be asked. Each survey asked the foundational questions on sight reading and their philosophy of sight reading in the choral classroom. An overview of the survey that was presented to the teachers will be discussed. The findings supported the conclusion that the more the teachers used sight reading in their classroom, the higher the contest scores were for their choirs at contest. Another conclusion is that earlier that the teachers started using sight reading in their classroom, the higher the scores at contest.

Keywords: education, music, choral sight-reading, high school vocal music educators

INTRODUCTION TO THE STUDY

Background

The focus of this study is to aid in deciding if sight-reading in the choral classroom affects the outcome of the choir's sight-reading scores at state contests. Also, another important factor of the study aims to look at the sight-reading scores in relation to when the students start sight-reading during the school year. There is currently no set pedagogy adopted by music teachers to ensure that all students from ninth through twelfth grade are receiving consistent and effective training in sight-reading to build good musicianship. The data is being used from a variety of Missouri vocal music teachers from a variety of choir sizes. By using data from teachers from different school sizes, it will give a better understanding on whether or not the outcome of sight-reading in the choral classroom is justified into receiving higher scores at district contests. This type of research, polling teachers from different school sizes, will give a clearer understanding of how sight-reading in the classroom plays a role in understanding the sight-reading scores that the choirs receive during that school year.

Practice under Investigation

There are many different components to teaching sight-reading and the outcomes from each of the components. It is important to look at many different factors to get the outcome that you want from the students. Some of the factors include, when you start teaching sight-reading, what resources you use, how much time a day do you spend sight-reading, how many days a week do you sight read, and whether or not they use solfege symbols.

Statement of the Problem

The desired outcome in sight-reading at district festivals is heavily weighted on how much time and effort is used in the choral classroom for sight-reading. There is a need to know how much time is used and whether or not it is sufficient for the scores that they teachers would like to attain.

Purpose of Study

The purpose of this study is to determine whether sight-reading in the choral classroom affects the outcome of the choirs sight-reading scores at state contests. It will allow us to see the relationship of scores to practice time.

Research Questions

RQ 1: How early in the school year did you start sight-reading with your students in your choral classroom?

RQ 2: How many times per week, on average, do you practice sight-reading with your students?

Null Hypothesis

There is no significant correlation between time spent practicing sight reading and score received in district contest situations.

Anticipated Benefits of Study

The results of the study will inform teachers as to the benefits of sight-reading in the choral classroom. This will allow the teachers to be informed of best teaching practices and to be more confident in their instructional methods.

REVIEW OF LITERATURE

Singing music at sight is a complex skill. It requires knowledge of music notation and the ability to translate this information into a performance. It involves the understanding of multiple relationships at one time in a mental process (Henry, 2011). It demands a quick response in understanding rhythmic figures as well as the ability to operate within a given framework while manipulating other musical properties. Further, it requires the ability to perform two complex ideas at once, pitch and rhythm. These ideas must be the same high quality with each note.

As other facets of musical underpinnings, the more you practice, the better you become at that skill (Saxon, 2009). You cannot learn how to play an instrument without practice and practicing should be looked upon when you look at musical abilities. Practicing is a type of exercise that is extremely important in musical comprehension. According to Kopiez and Lee (2008), expertise in theory has shown that time spent on activities is a good predictor for later success. Since sight-reading is a skill that is learned, the more you practice sight-singing, the better you become at it. This study looks at the time spent sight-reading in class to ensure the correct scores are to be had by the students at district contest.

According to Hayward and Gromko (2009), the inclusion of sight-reading at state contests in secondary schools suggests that the ability to read and play with speed and accuracy is an important indicator of music achievement. Sight-reading can be used as a way to critique the knowledge of musicians at contests. Auditions at college and university levels are often based on performance ability and have sight-reading added after the fact of auditions.

There are many different ways that teachers can optimize sight-reading ideas so the students will a have a more successful time at sight-reading. Some of these practices, according to Henry include, physically keeping the beat, using hand signs, using different vowels to sing on

as well as isolating trouble spots while sight-reading. Using these tricks can help your students be successful at contests where sight-reading is present.

The materials that a teacher uses for sight-reading can play a big part in whether the students will be successful (Kuehne, 2007). Teachers can use method books, choral literature, hymns, or they can create their own books for teaching. What they use has an effect on whether or not the students will comprehend the sight singing qualities that are important. Some choral directors use choral literature instead of method books to be more successful. The piano provides tonality and harmonic support for the students.

Another way to sight read in class is to use the in class literature to teach the information that you will be singing in a certain rehearsal. (Kuehne, 2007) This is an effective way to teach sight-reading because it gives the students something to work for while giving them a definite outcome of what is to come from their sight-reading. The effectiveness that this can have on contests is high.

Understanding sight-reading practices and how much time teachers spend on sight-reading gives us an insight to the inside practices of sight-reading. Therefore, the purpose of this study is to discover the time spent and how early in the year sight-reading was started to cross-reference the score that the students received at district contest. For this study, the population was high school choral music directors in the state of Missouri.

RESEARCH METHODOLOGY

Research Design and Variables

A non-experimental, one-shot survey research design was used to collect data for this investigative project. The independent variables in this study are the resources used as well as now many minutes per session were used to sight-read. The dependent variable was the sight-reading score that was received at contest.

Study Group

Thirty-one surveys were sent via email to secondary vocal music instructors in Missouri. Of those 31 surveys send, 15 high school vocal music teachers replied as participants. All members of the study group were teaching vocal music to students in the ninth-twelfth grade public school systems. The school districts represented were from the public school system and ranged from 3A to 5A schools.

Data Collection and Instrumentation

An electronic survey of six questions was use for data collection. The surveys were sent to choral music instructors in the state of Missouri via email. Scores received at district contest recorded percent and frequency types of sight-reading scores.

Data Analysis Methods

All statistical analysis was conducted using SAS 9.2 for Windows by the SAS Institute, Inc. (2008). Statistical tests were not conducted at any particular level; instead p-values are reported to allow for the reader to decided whether or not to reject or fail to reject the null hypothesis. Tests conducted included the Jonckheere-Terpstra, Kruskal-Wallis, Pearson's correlation, F-test and *t*-tests. The data will be used to determine if there is a correlation between sight-reading scores and sight-reading materials/time used sight-reading. (Note the t-test was

used for the correlation coefficients as well as inside the linear model process. The F-test was used inside of the linear model process.)

FINDINGS AND RESULTS FROM DATA ANALYSIS

Discussion of Findings

The study that was conducted looked to see if there is any correlation between the time spent sight-reading per week (Time) and the score the choir received at District Music Contest on the Sight-Reading portion (DSS) as well as the correlation between when the choir started sight reading during the year (Start) Important findings of research can be found in Table 1, which analyzes the relation between DSS vs. Start.

Table 1
Contingency Table for DSS vs. Start

		Month Started Sight Reading				
Frequency Percent Row Pct Col Pct		Aug-Sept	Oct-Nov	Dec-Jan	Feb-March	Total
Score Received	1	8 53.33 88.89 100.00	1 6.67 11.11 25.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	9 60.00 0.00 0.00
	2	0 0.00 0.00 0.00	2 13.33 100.00 50.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	2 13.33
	3	0 0.00 0.00 0.00	1 6.67 33.33 25.00	1 6.67 33.33 50.00	1 6.67 33.33 100.00	3 20.00
	4	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 6.67 100.00 50.00	0 0.00 0.00 0.00	1 6.67
Total		8 53.33	4 26.67	2 13.33	1 6.67	15 100.00

As shown in table 1, RQ1 was answered by finding that the earlier the teacher introduced sight-reading in the classroom, the higher grade was attained at district contest. All teachers that started sight-reading with their students in August and September earned a 1 rating at contest.

A shown in Table 2, a contingency table was applied in the areas of DSS vs. Time. This table shows the analytical data used in the analyzing of the contingency table.

Table 2
Contingency Table DSS vs. Time.

		Time Spent Sight-reading per week			
Frequency Percent Row Pct Col Pct		-1	0	1	Total
Score Received	1	0 0.00 0.00 0.00	6 40.00 66.67 85.71	3 20.00 33.33 100.00	9 60.00
	2	1 6.67 50.00 20.00	1 13.33 50.00 14.29	0 0.00 0.00 0.00	2 13.33
	3	3 20.00 100.00 60.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	3 20.00
	4	1 6.67 100.00 20.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 6.67
Total		5 33.33	7 46.67	3 20.00	15 100.00

Table 1 and Table 2 represent the contingency tables formed when crossing DSS with Start and Time, respectfully. Notice that in both tables, there are a plethora of cells that are empty (filled with zeros). Due to the presence of these cells, the standard parametric Chi-square statistic may not be conducted. This is a direct result of the sparse data.

However, a nonparametric test of association may be run. Since the contingency tables are doubly ordered, we may run the Jonckheere-Terpstra test as well as the Kruskal-Wallis Test. For both of these tests, the null hypothesis is that there is no association between Start and DSS.

For the Jonckheere-Terpstra test, the two sided p-value is 0.0004 which is enough to say that there is an association between Start and Dss.

The Kruskal-Wallis test is a nonparametric test that does not depend on order with the same hypothesis as the Jonckherre-Terpstra. The result here is a p-value of 0.00036, which again is sufficient for rejecting the null hypothesis of no association between Time and DSS.

Now that we have established an association between Start and DSS as well as Time and DSS, we may now proceed at looking at the correlation between the pairings.

Prior to conducting any actual calculation of correlation, it is first important to examine plots of the variables. The reason for this is that Pearson's correlation coefficient, the most typical correlation calculated, only measures ***linear*** relationships between variables. Our prior tests, Jonckheere-Terpstra and Kruskal-Wallis only measure association between variables and are not tied to linearity. The following figure, Figure 1, provides the various plots as well as variable histograms for examination.

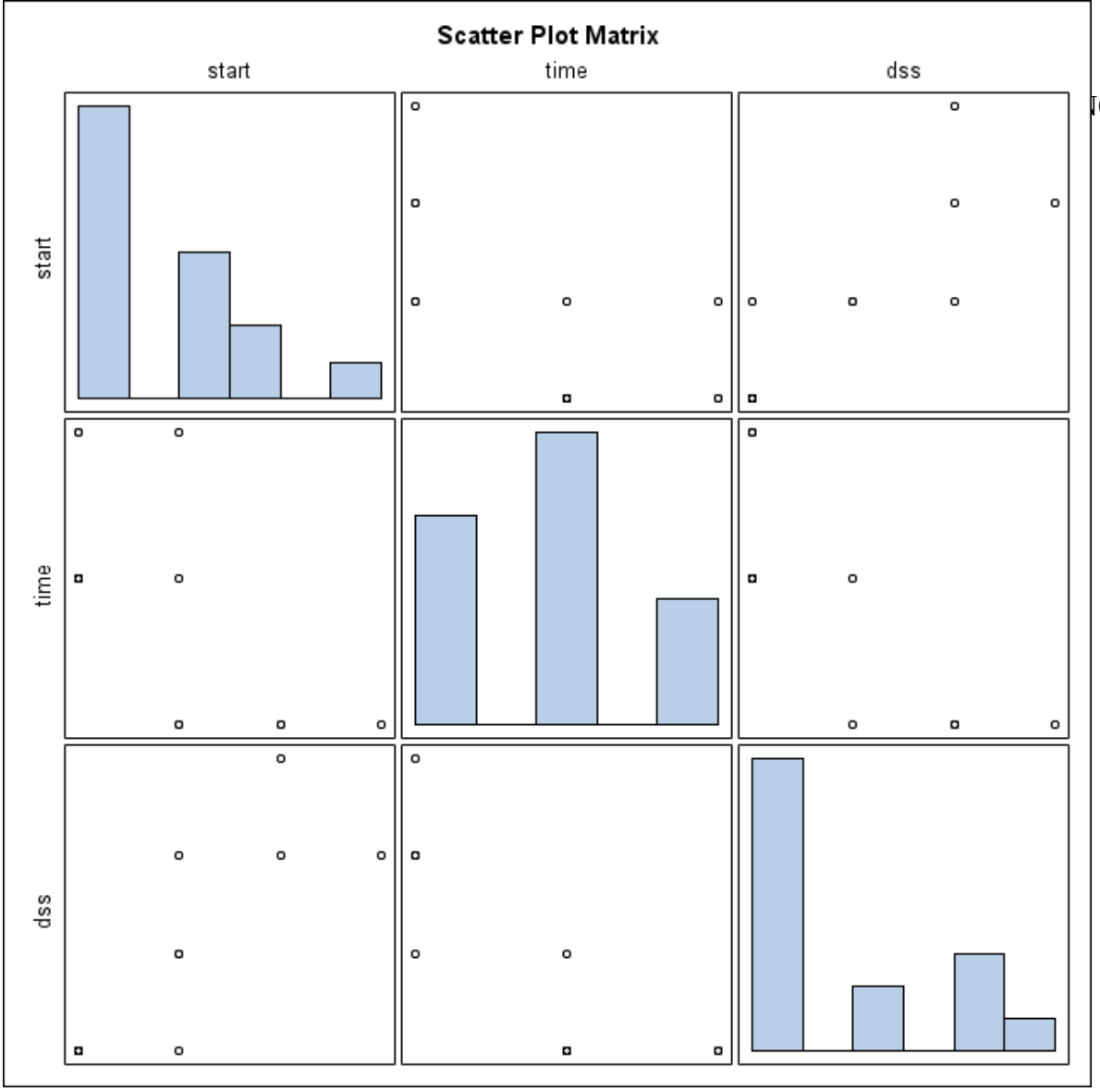


Figure 1.

The Scatter Plot Matrix that appears in Figure 1 is symmetric along the main diagonal. The three cells that comprise the main diagonal are the frequency histograms of the three variables involved in the analysis (Start, Time and DSS). While not displayed, the horizontal axis for each of these three cells consists of the various levels of the particular variable. The most frequent category for the Start variable is 0 (August-September), Time is 0 (6-10 minutes), and DSS, I (high score at districts).

For the scatter plots, we are most interested in the lower left plot and the lower-middle plot. (Enlarged in Figure 2.)

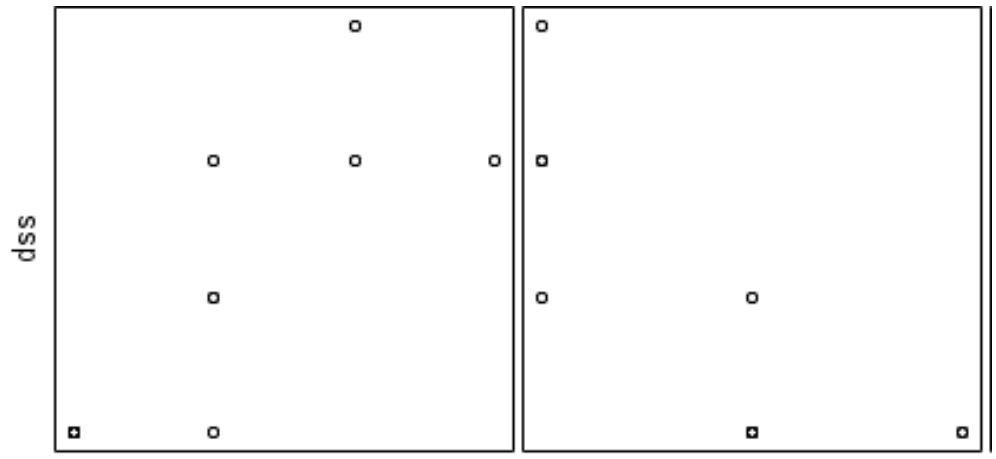


Figure 2.

The y-axis represents the various categories of DSS while the x-axis represents the categories of Start and Time, respectfully. From the first frame of Figure 2, there does appear to be a direct, linear trend between the Start and DSS categories. This may be interpreted literally as the higher the Start category, the higher the DSS category. However, this literal interpretation is insufficient. The contextual interpretation is more appropriate: the later a choir starts sight reading in the academic year, the lower the ranking on Sight Reading portion at District Music Contest. The second frame of Figure 2 suggests an inverse linear relationship between Time and DSS. The contextual interpretation is that as a choir spends more time practicing sight reading during a class period, the higher the ranking they will received on the District Music Contest Sight Reading portion.

Since we do indeed have what appears to be a linear relationship between the two pairs of variables, we may now calculate Pearson's correlation coefficient as shown in Table 3. Notice that Start and DSS have a strong positive correlation ($\boldsymbol{\rho} = 0.8567$) while Time and DSS have a strong negative correlation ($\boldsymbol{\rho} = -0.79407$) as was predicted through analysis of Figure 2. These

correlation coefficients are high significant and allow for the null hypothesis of **ρ** (rho) = 0.00 to be rejected.

Table 3
Pearson Correlation Coefficients

	Start	Time	DSS
Start	1.0000		0.85867 p-value < 0.0001
Time		1.0000	-0.79407 p-value = 0.0004
DSS	0.858687 p-value <0.001	-0.79407 p-value = 0.0004	1.0000

Additional prediction ellipses were constructed for DSS X Start (Figure 3) and DSS X Time (Figure 4) with confidence levels of 75% to 95% in 5% intervals.

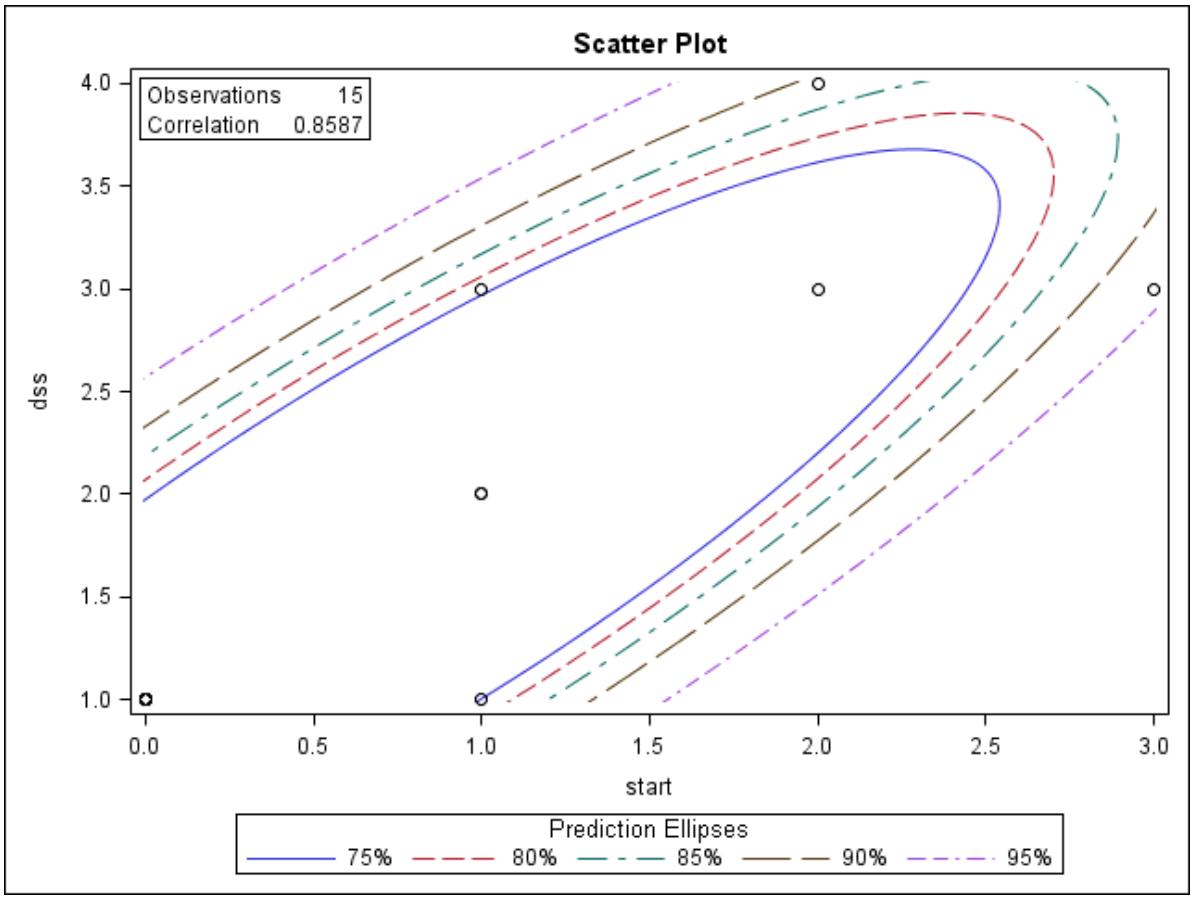


Figure 3.

Predication ellipses allow for the construction of a region where we would expect to see a new observation from the population. The confidence levels indicate how confident we are that a new value would be found in that region. This assumes bivariate normality.

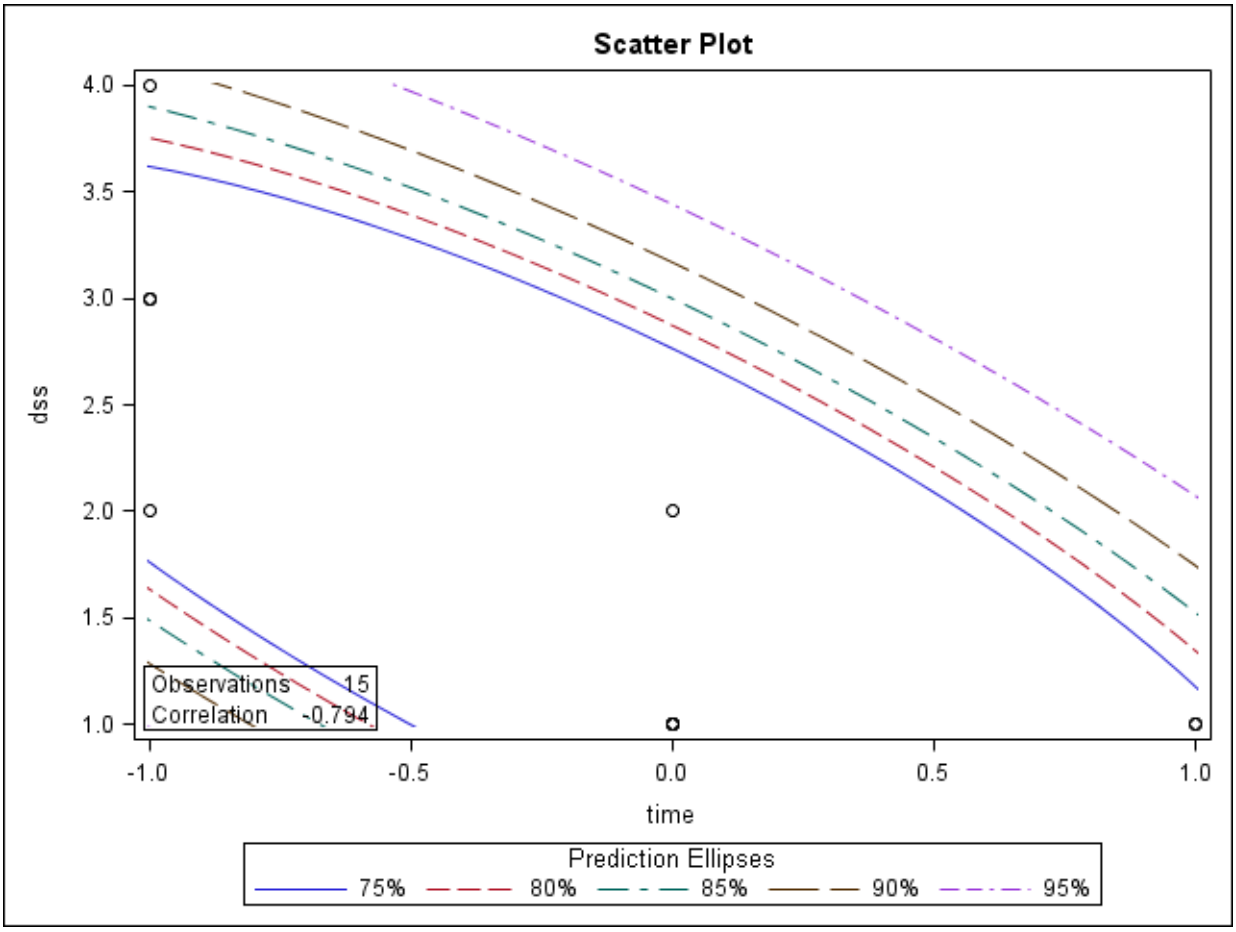


Figure 4.

In addition to the correlation information, we generated a general linear model for DSS. The final model ended up as

$$DSS = 0.63721(Start) - 0.56512(Time) + 1.19070$$

This model has an R-squared value of 0.8321 and an adjusted R-square of 0.8041. The F-statistic is 29.74 with two degrees of freedom for the model and 12 degrees of freedom for error.

The p-value is less than 0.0001. This model accounts for approximately 83% of the variance in the ranks received by choirs on the District Music Competition Sight Reading portion. This model can act as a prediction model for how a particular choir might score on the sight-reading portion given knowledge about when the choir began sight reading and how much time they spend sight reading.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the findings in this study, teachers who started teaching sight-reading in their classroom earlier in the school year saw greater scores in sight-reading at district contest than those teachers that started teaching sight-reading later in the year. Also, teachers who spent more days per week and more minutes per day on sight-reading saw greater scores than those teachers who spent less days and less minutes per day on sight-reading. The teachers responses to the survey aided in the knowledge we have about sight-reading.

Recommendations

Although this study represents a small population of high school vocal music teachers in one geographical area, the researcher anticipates that a nationwide study with a larger population would have similar findings. Teachers should focus on their curriculum that the schools expect them to follow when choosing sight-reading materials and try to meet those standards.

Limitations to this study include the small study group size. It would strengthen the research if the study group was larger and had more specific questions.

It is the recommendation of the researcher to share the findings of this study with high school vocal music directors in the state of Missouri as well as all music faculty to advocate the use of sight reading in the choral classroom.

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APPENDIX

How early in the school year do you start sight-reading with your students? *

- August-September
- October-November
- December-January
- February-March
- April-May

How many times per week, average, do you practice sight-reading with your students? *

- One Day
- Two Days
- Three Days
- Four Days
- Five Days

What score did your mixed choir receive in sight-reading at District Contest this year? *

- I
- II
- III
- IV
- V