

FACTS, FUNS, AND FREES DURING EDUCATIONAL FILMS

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Americans talk about freedom a lot. We say we are more free than citizens in the Soviet Union. We say our system of education is free. We say this is the home of the free. For hundreds of years people have moved here to obtain religious, political, and economic freedom. Even so, no one has ever measured freedom before.

To learn more about freedom in the classroom, first and second graders, junior high students, and graduate students counted facts, funs, and frees while watching fact films (films with high factual content) and fun films (films designed to be fun).

What are the frequencies of facts, funs, and frees? What is the difference between facts and funs on the fact films and the fun films? Do we feel free when learning? Do we feel free when having fun? Are the frequencies of facts, funs, and frees different at different ages? Are there free films?

Background

Inner Behaviors Psychology began as the study of a person's inner mental mechanisms, grew into a study of outer behavioral observation, and is just recently returning to the study of the inner individual (Jacobs and Sachs, 1971). Jacobs and Sachs reported the measuring of fear, depression, well-being, positive and negative emotions, imagery, and other inner events. Duncan (1971 and 1972), Hively and Duncan (1972), Dean (1973), Sokolove (1973), and Stromberg (1977) have all reported inner data on the Standard Behavior Chart.

Methods

Forty-seven first and second graders and 28 seventh, eighth, and ninth graders from an urban Kansas school district, plus 23 people from a University of Kansas Educational Administration graduate class, counted facts, funs, and freedoms while watching fact films and fun films. The teachers volunteered to have their classes participate.

The first and second graders saw 10 fact films and 10 fun films. The junior high students saw one fact film and one fun film. The graduate students saw three fact films and two fun films.

To verify that first and second grade children could count accurately, I showed them 10 wild animal pictures from Homes and Habits of Wild Animals (Schmidt, 1954), turned around four to five times, and said "Good!" seven to 11 times in response to their naming the animals correctly. Each child tallied the number of pictures I showed, turns I made, and times I said "Good!". To ensure that the elementary and junior high students knew what facts, fun, and free were, I had them give their own examples of each.

I chose 20 films, 10 of which presented many facts and 10 of which were fun. The fact films were above the grade level of first and second graders, with topics ranging from multiplication to astronomy. The film catalog rated the fact films from an intermediate elementary through an adult level.

The fun films used included those with the highest median fun counts in a pilot study, those previewed on the basis of the catalog description, and films the school district's media specialist recommended. They included fairy tales, Dr. Seuss stories, films made from award-winning children's books, and award-winning films. Each film was approximately 10 minutes long.

Data Collection During the fact film and the fun film, each person tallied facts, funs, and frees. These frequencies were charted on the Daily Standard Behavior Chart. The elementary students had 4 x 6 inch white sheets of paper with a line for the child's name, with "facts", "fun", and "free" printed in columns across the top. They tallied facts, funs, or frees on the sheets during each film. At the end of each film, a child collected the sheets and put them in a large manila envelope labeled either "fact film" or "fun film". They watched a fun film and a fact film each day for 10 days. The junior high and graduate students labeled their own sheets and shared their frequencies after the films.

Data Analysis The frequencies were charted on the Standard Behavior Chart. The analyses used included frequency distributions, the frequency range, the mid-median test with Fisher's exact probability, and celeration lines.

Results

Counting Accuracy Chart 1 shows the frequency range, the median, and the range of counting error for two classes of first and second graders when they counted pictures, turns, and "Good!"s. The probability that the differences between the counts occurred by chance is also shown. Probability levels were computed with the mid-median test and Fisher's exact probability.

The first grade class counted pictures and "Good!"s more accurately the second day. The range of all the counts decreased from the first to the second day. Using the counts from the second day for the first grade class and the counts for the first-second grade class, the range of counts for pictures was x13 for the first graders and x2.3 for the first-second graders; for turns, x2 and x2.5; and for "Good!"s, x3.8 and x2.4. Both classes accurately counted pictures and undercounted "Good!"s. The first grade class slightly overcounted turns.

What is the Difference Between Fact, Fun, and Free Frequencies on the Fact Films and the Fun Films? Charts 2, 3, 4, and 5 show the median frequencies for facts, funs, and frees during the fact films and the fun films in each class. Each chart is sectioned into facts, funs, and frees. The first frequency in each section is the median for the first film; the second frequency is the median for the second film; etc. The celeration line shows the trend of the median frequencies. The probability equation states the probability that the differences between facts and frees, facts and funs, and funs and frees occurred by chance.

Charts 2 and 3 show that median frequencies for facts were significantly higher in fact films. Charts 4 and 5 show that median frequencies for fun were significantly higher in fun films. Comparing all four charts, it is clear that median fact frequencies on fact films were higher than median fun frequencies on fun films. Also, median fact and fun frequencies were lower in the first grade class. Finally, median free frequencies were low in both

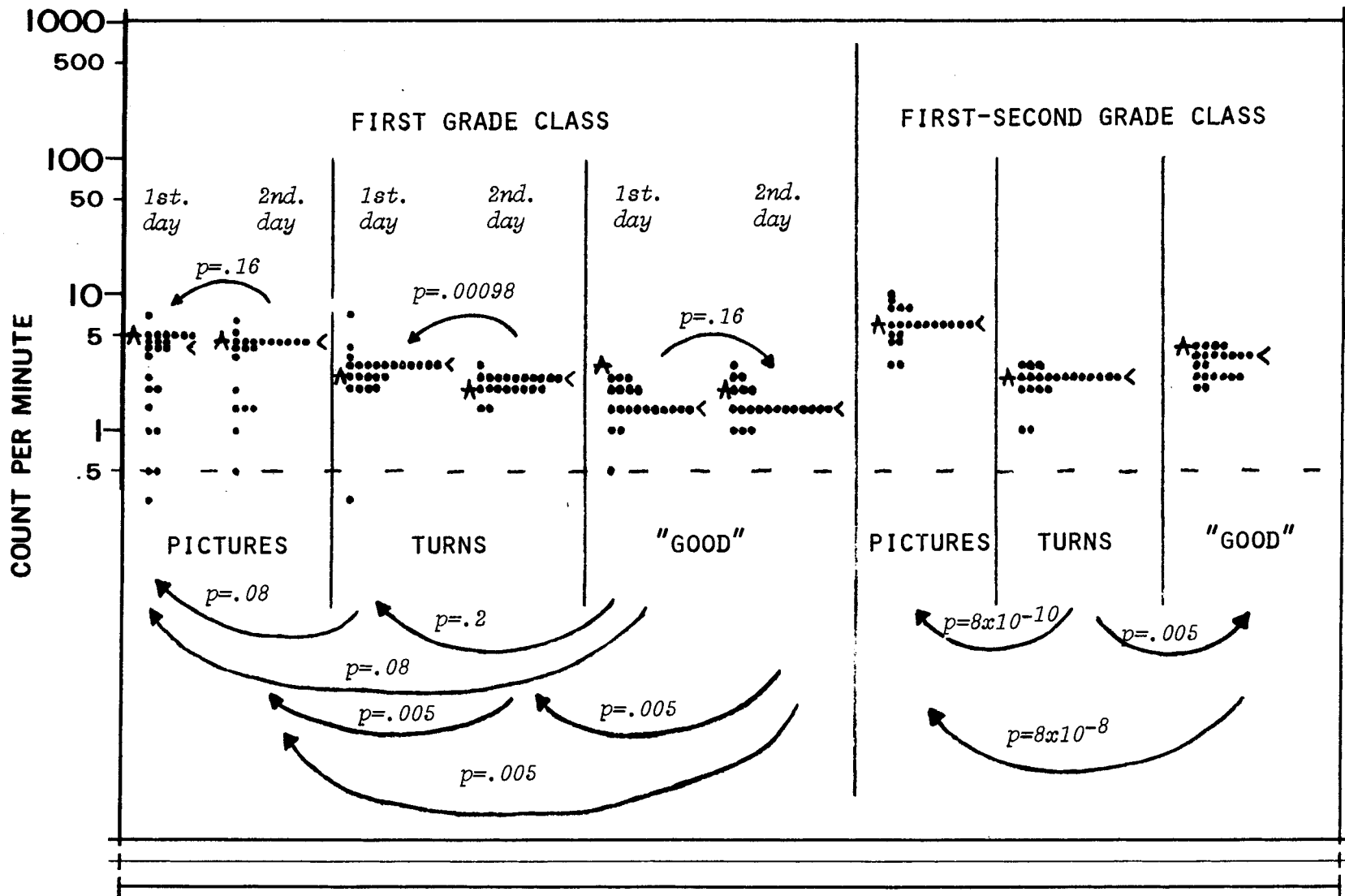


Chart 1. Counting Accuracy

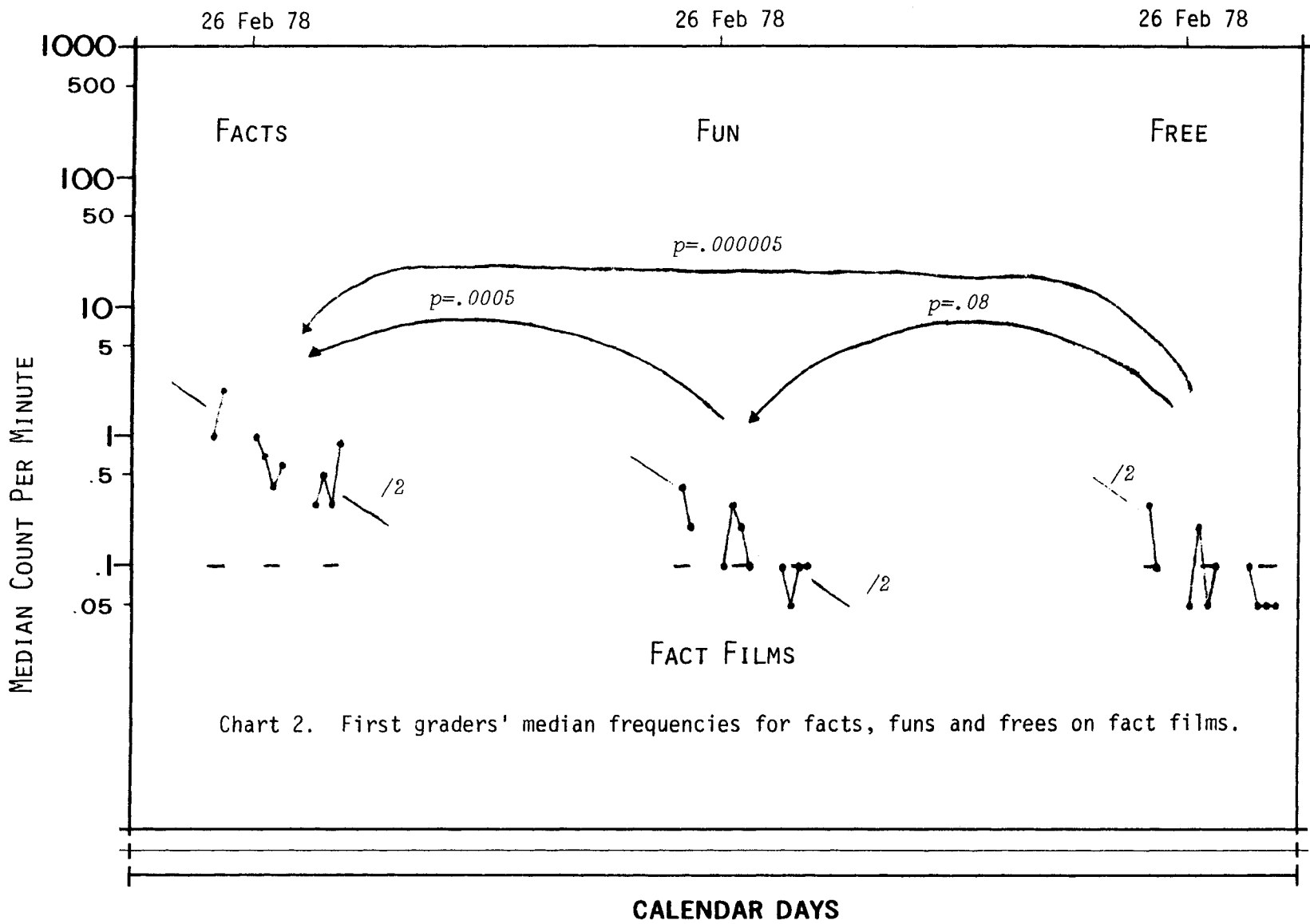
★ number presented per minute
< median count

A. CALKIN

FIRST AND SECOND GRADERS COUNT

"PICTURES" "TURNS" "GOOD"

Calkin, Abigail. Facts, funs and frees during educational films. *Journal of Precision Teaching*, Volume II, Number 2, July, 1981.



Calkin, Abigail. Facts, funs and frees during educational films. *Journal of Precision Teaching*, Volume II, Number 2, July, 1981.

DAILY CHART TRACER (CT-8)

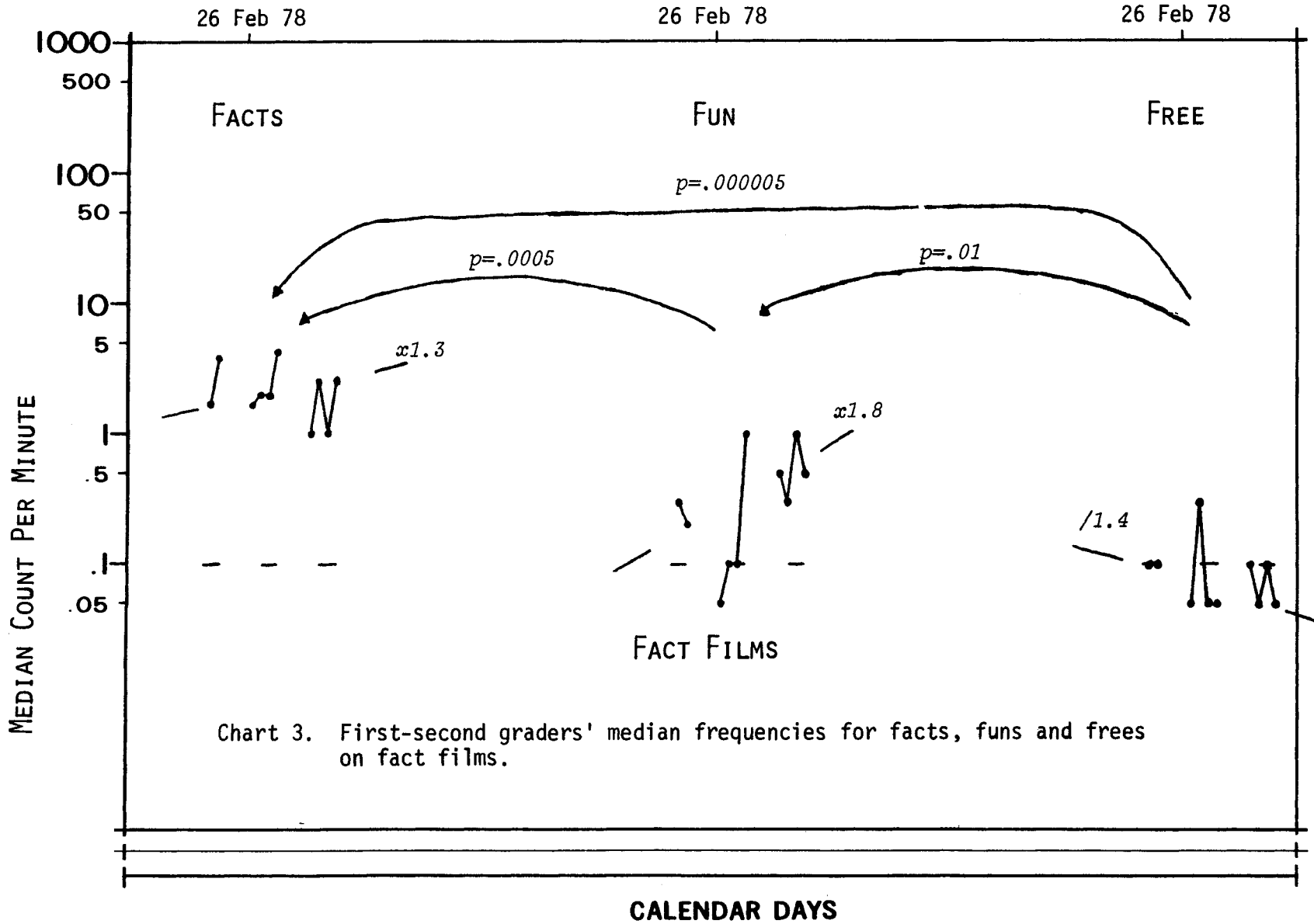
9

A. CALKIN _____

FIRST GRADERS _____

COUNT _____

FACTS, FUNS AND FREES
 ON FACT FILMS



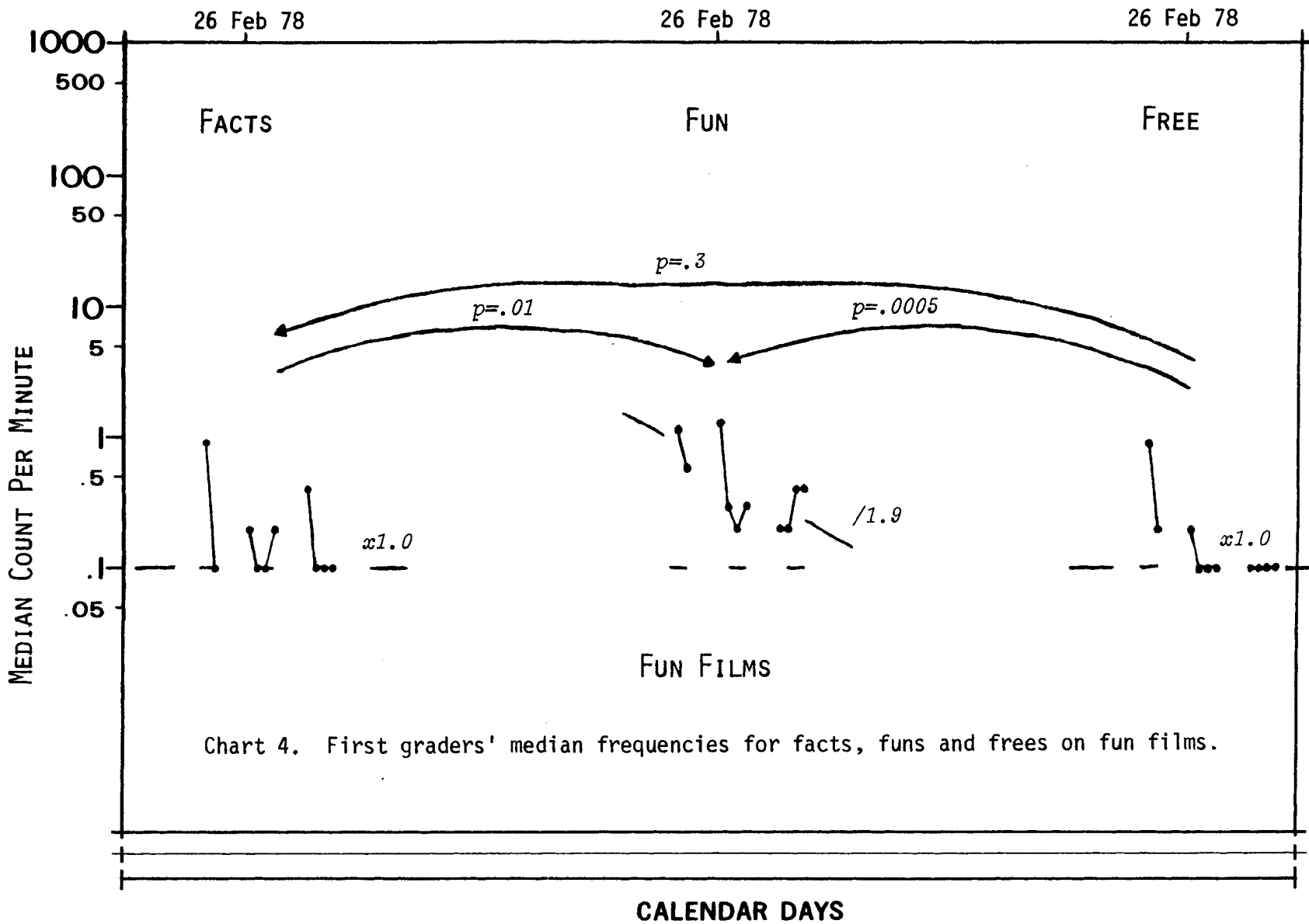
Calkin, Abigail. Facts, funs and frees during educational films. *Journal of Precision Teaching*, Volume II, Number 2, July, 1981.

DAILY CHART TRACER (CT-9)

A. CALKIN _____

FIRST-SECOND GRADERS _____ COUNT _____

FACTS, FUNS AND FREES
 ON FACT FILMS



Calkin, Abigail. Facts, funs and frees during educational films. *Journal of Precision Teaching*, Volume II, Number 2, July, 1981.

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A. CALKIN _____

FIRST GRADERS _____ COUNT _____
FACTS, FUNS AND FREES _____
ON FUN FILMS _____

DAILY CHART TRACER (CT-8)

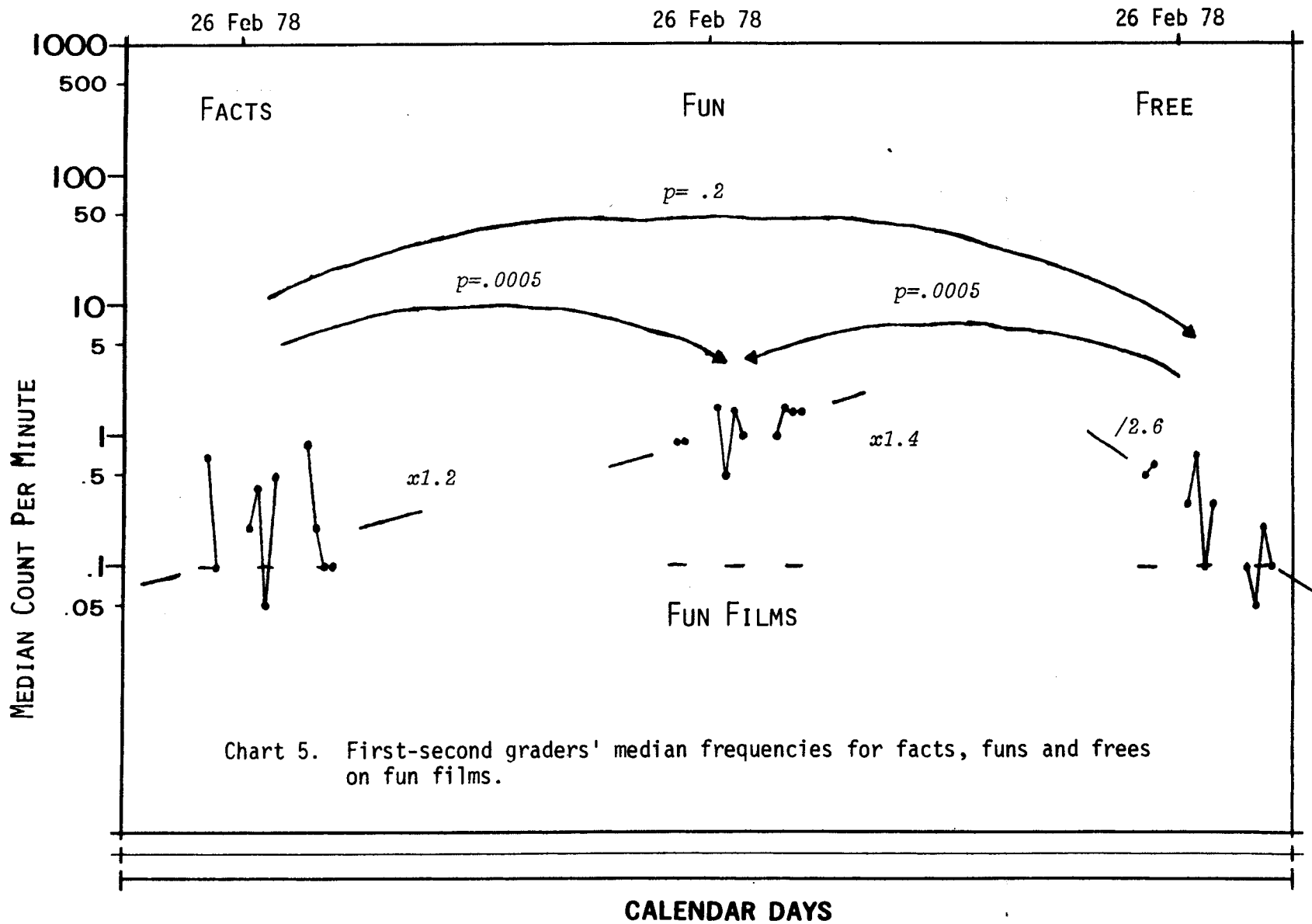


Chart 5. First-second graders' median frequencies for facts, funs and frees on fun films.

Calkin, Abigail. Facts, funs and frees during educational films. *Journal of Precision Teaching*, Volume 11, Number 2, July, 1981.

DAILY CHART TRACER (CT-8)

6

A. CALKIN _____

FIRST-SECOND GRADERS _____

FACTS, FUNS AND FREES
 ON FUN FILMS

classes and both types of films.

There were three structurally free films -- Wind, Powers of Ten, and Movement of Plants. Wind was the only film which had frees as the highest count. This occurred in the first-second grade. The median free frequency was 7, the median fact frequency was 4, and the median fun frequency was 5.

Are the Frequencies of Freedom Feelings Different at Different Ages? Chart 6 shows the frequency distributions of first and second graders and adults on facts, fun, and free while watching a fact film, Multiplication, and a fun film, Zax from Seuss on the Loose. This Chart shows that the adults learned more facts than the children and that the children had more fun than the adults. The results on the frees do not show that one group consistently felt more free than the other.

Charts 7, 8, and 9 show the frequency distributions of first and second graders, junior high students, and adults on Powers of Ten, a fact film, and Blaze Glory, a fun film.

Chart 7 shows that facts were consistently and significantly higher on the fact film than on the fun film for all three groups. It is obvious from Chart 7 that the probability levels within each group far exceed the probability levels calculated for the differences between the groups.

Chart 8 shows that the fun frequencies on the fun film were significantly higher than on the fact film for all three groups. Again, the probability differences within each group for the fact and fun counts on the fun film for each group were much greater than the probability levels between the groups.

Chart 9 shows that both films had low frees in all three age groups. The adults had the highest frees; the junior high students had the lowest frees.

Are There Free Films? The junior high students expressed an interest in making free films. Three students each made a free film. The teacher made a fun film. The films were made in the Spring and shown the following Fall. Over half the class were new students, and the teacher was different also.

Chart 10 shows that Marti and Rosalie each made a film in which frees had the highest frequencies. Bruce's film had low fact, fun, and free frequencies. Virginia's fun film had the highest frequencies on the funs.

Discussion

Free Feelings This study found that free counts on fact and fun films were low in all three age groups. The one exception to this was the first-second grade class's counts on the film, Wind. While the adult free frequencies were higher than either the first and second graders or the junior high students, they were still low.

One explanation is that the films chosen had little freedom in them. Another possibility is that the viewing of the films was a controlled operant situation, i.e., the viewers did not have a choice in what they saw or in when they viewed the films. Given that all the films were shown in classroom settings, the viewer did not truly have the option to leave the room.

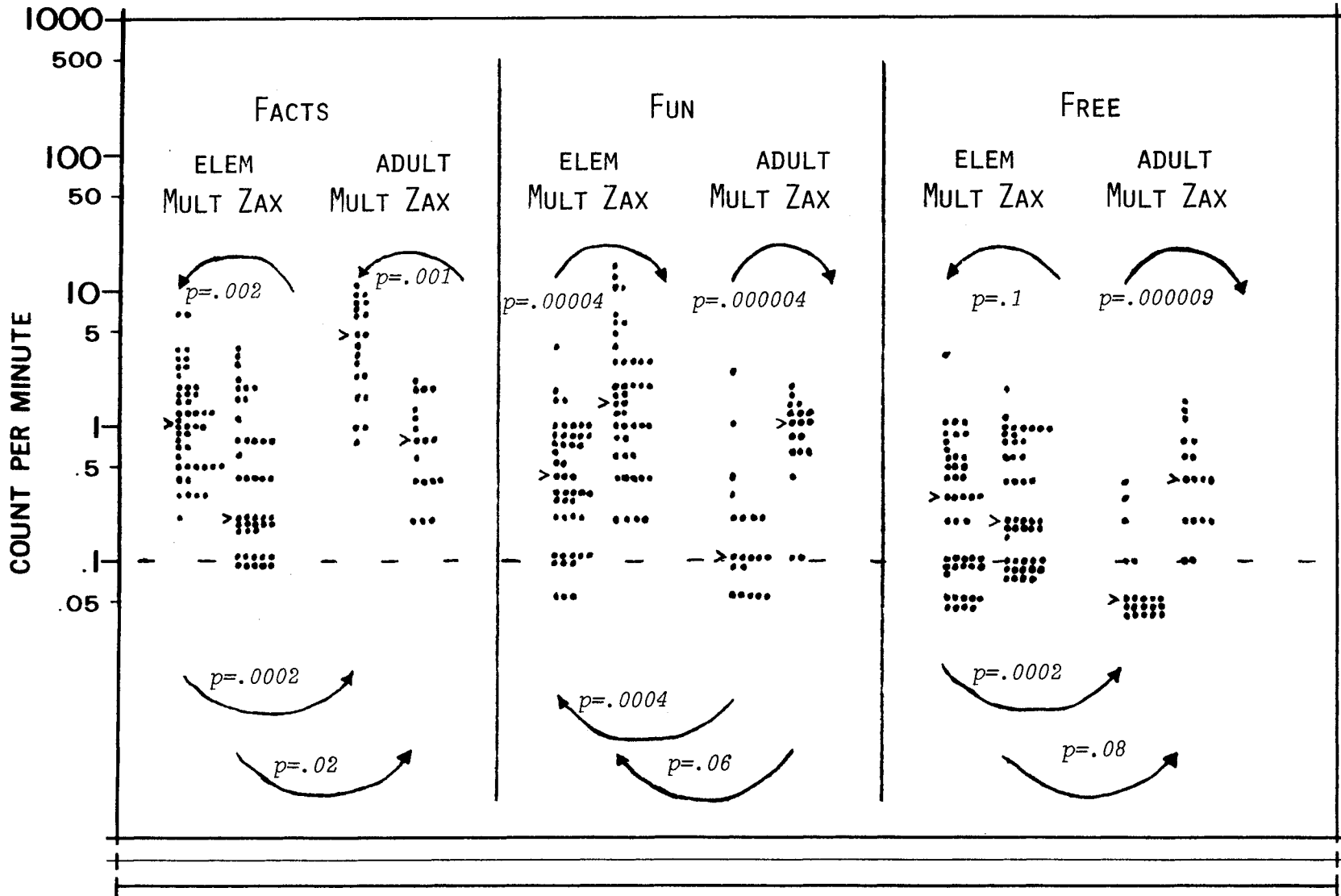


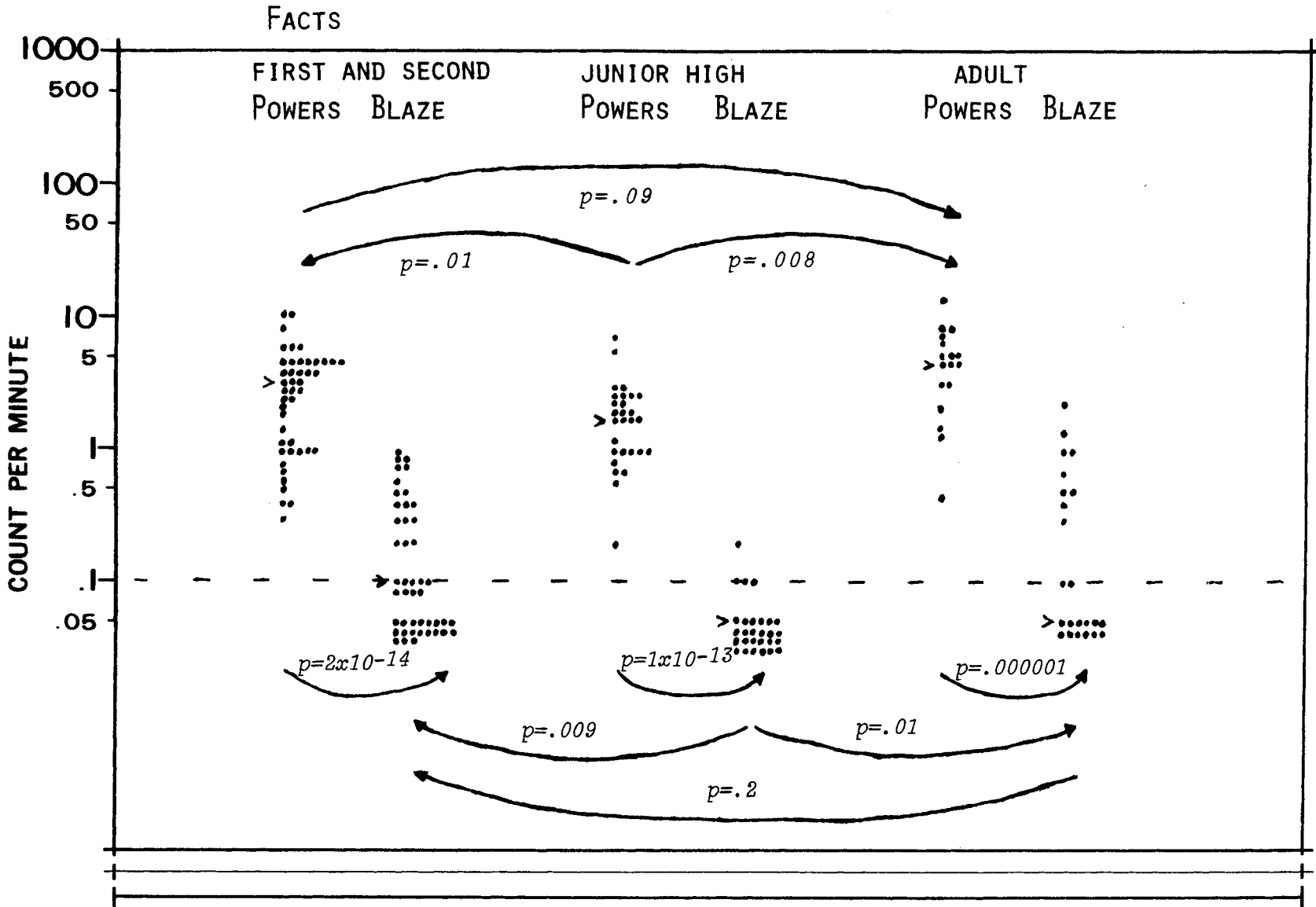
Chart 6. Frequency distributions of first and second graders and of adults on a fact and a fun film.

A. CALKIN

FIRST AND SECOND GRADERS
 AND ADULTS

COUNT

FACTS, FUNS
 AND FREES

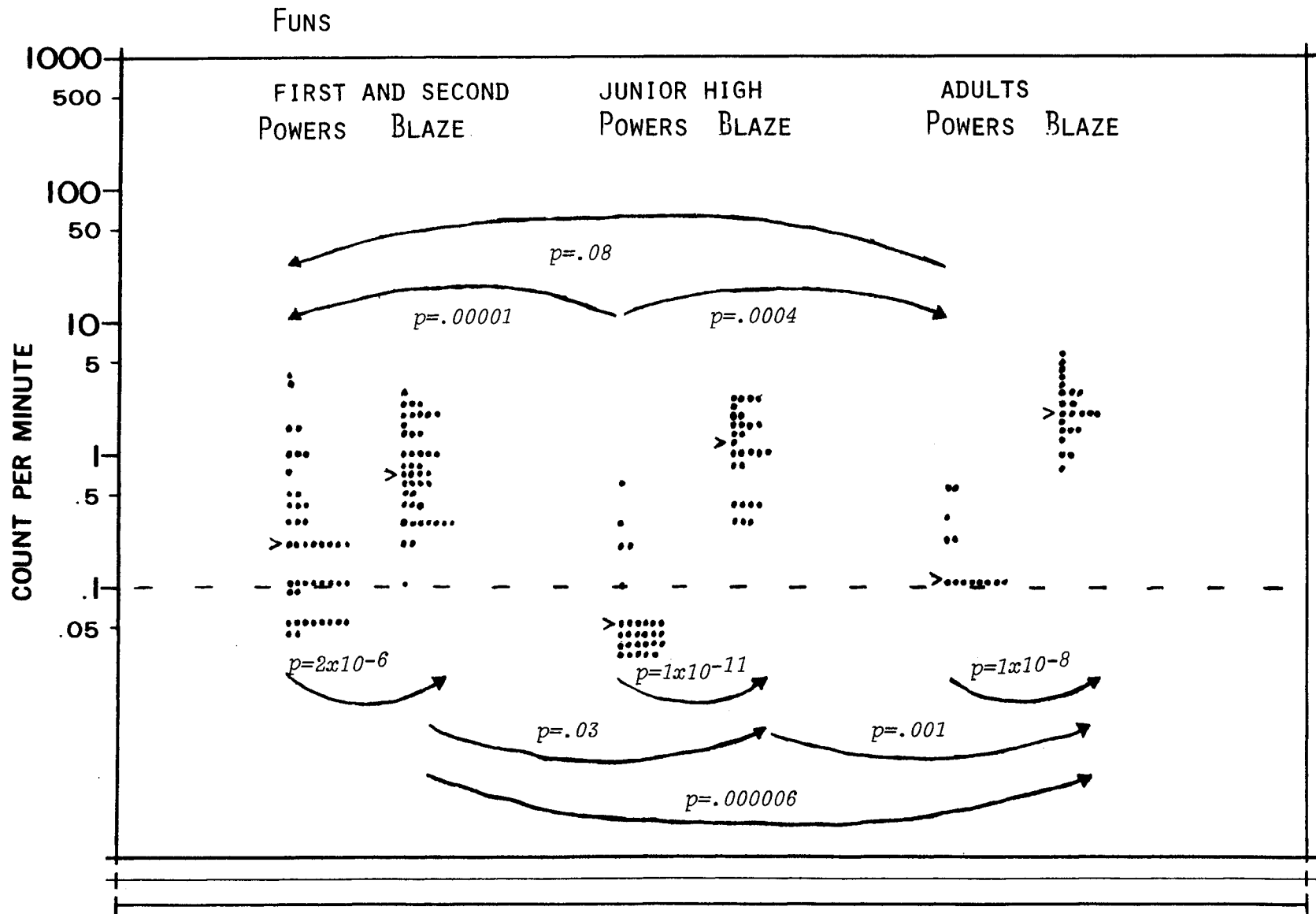


Calkin, Abigail. Facts, funs and frees during educational films. *Journal of Precision Teaching*, Volume II, Number 2, July, 1981.

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Chart 7. Fact frequency distributions for three age groups watching a fact film and a fun film.

| A. CALKIN | THREE AGE GROUPS | COUNT |
|-----------|------------------|-------|
| | | FACTS |



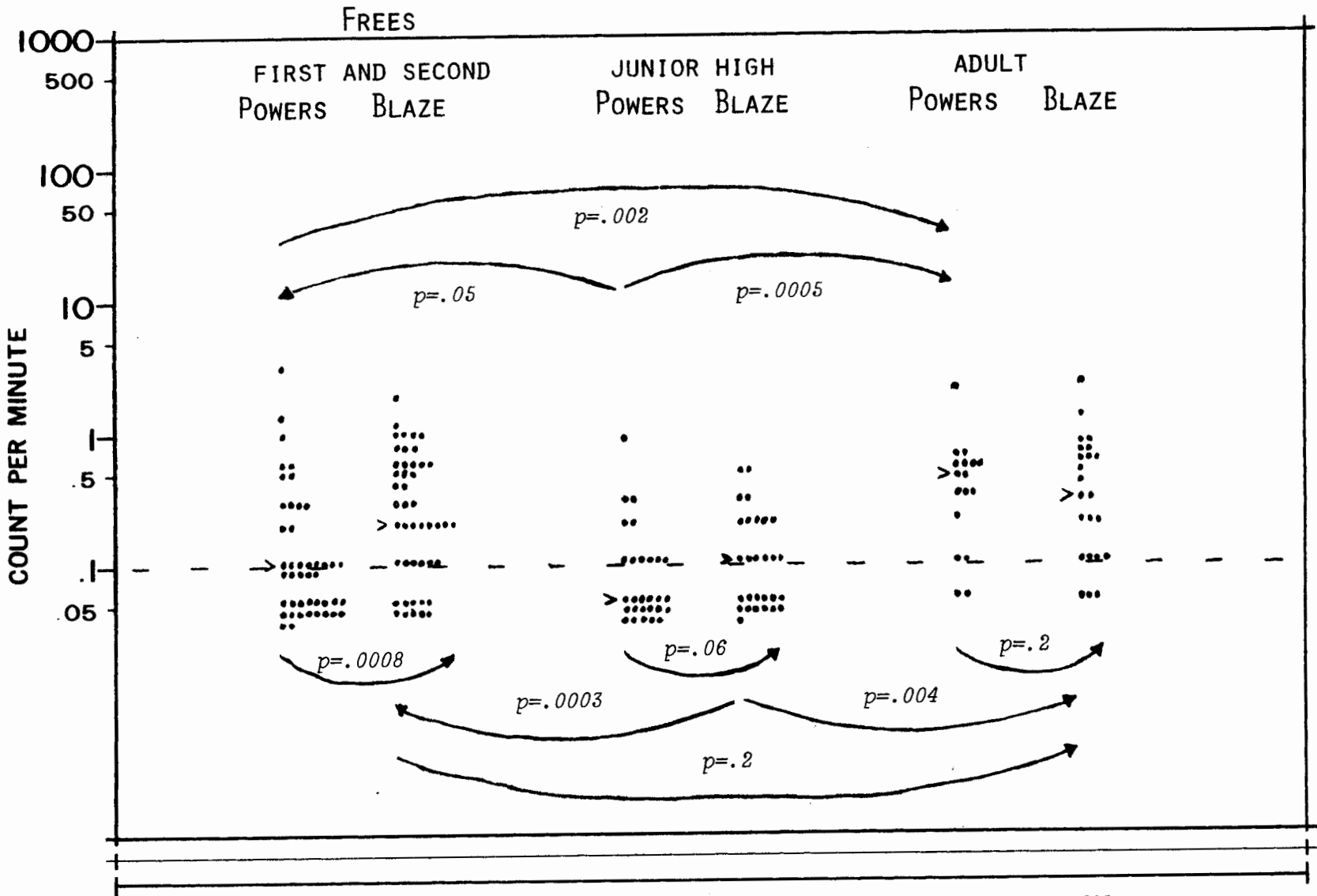
Calkin, Abigail. Facts, funs and frees during educational films. *Journal of Precision Teaching*, Volume II, Number 2, July, 1981.

DAILY CHART TRACER (CT-8)

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Chart 8. Fun frequency distributions for three age groups watching a fact film and a fun film.

| A. CALKIN | THREE AGE GROUPS | COUNT |
|-----------|------------------|-------|
| | | FUNS |



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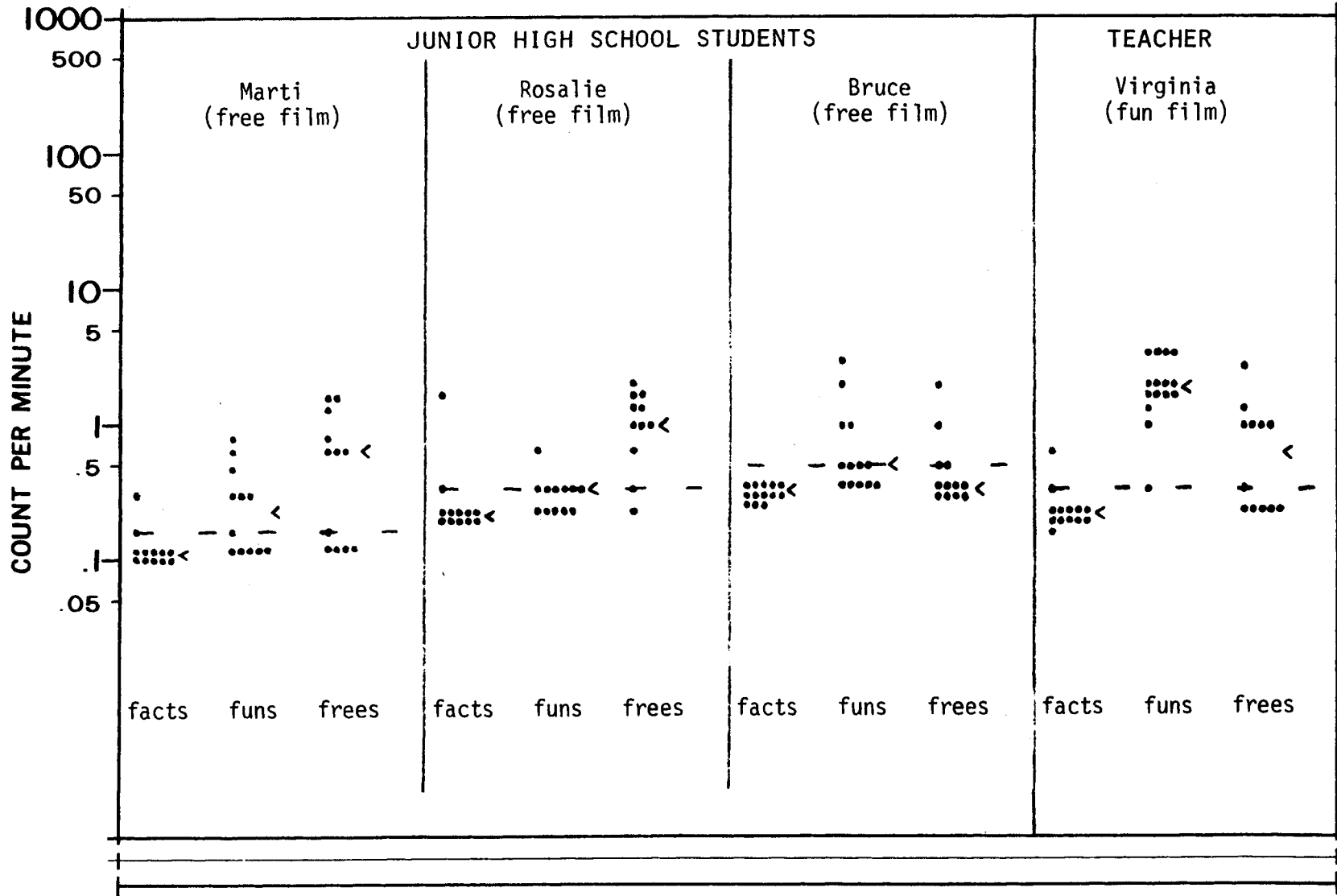
Chart 9. Free frequency distributions for three age groups watching a fact film and a fun film.

A. CALKIN

THREE AGE GROUPS

COUNT

FREES



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Chart 10. Frequency distributions for free films made by junior high school students and for a fun film made by the teacher.

A. CALKIN

THREE STUDENTS
AND THE TEACHER

COUNT
FACTS, FUNS
AND FREES

Calkin, Abigail. Facts, funs and frees during educational films. *Journal of Precision Teaching*, Volume II, Number 2, July, 1981.

Free Films Two junior high students each made a free film. The high free counts indicate that it is possible to make a free film, but that the fact and fun educational films in this study were not free. While the junior high students felt the least free in the fact and fun films, they at least knew their own operational definition of freedom sufficiently well to make films which had high free counts.

First and Second Graders The first-second grade class had higher frequencies than the first grade class. It is possible that the first graders became bored watching two films daily. The first-second grade was an open classroom, and the first grade was traditional. It is possible that an open classroom atmosphere induces more learning and fun than a traditional classroom.

Frequencies Across Ages The results from the elementary, junior high, and graduate students show that there are greater differences between fact and fun frequencies than there are between the three age groups. This shows that the fact films are high in factual content and the fun films are high in fun. Thus, the important difference is not the age of the viewer but the content of the film.

Conclusions

1. Children, teenagers, and adults count feelings with approximately the same frequency ranges when presented with the same material.
2. Feelings can be counted and studied using objective behavioral science. The frequency distributions of the three feelings have the same spread.
3. Primary children, teenagers, and adults can operationally differentiate between fact and fun films as measured by fact and fun frequencies counted on fact and fun films.
4. The differences between the fact film and the fun film were greater than the differences between the primary children, the teenagers, and the adults.
5. Primary children, teenagers, and adults do not feel free while watching films in a classroom setting.
6. It is possible to make a free film.

Implications for Future Research

Films producing high free frequencies need to be found or made. This could be done by a high school or college film class. It may be possible to make a film with high facts, high funs, and high frees.

A good topic for research would be to have the film viewers count facts they felt they learned, as well as share after the film facts they actually learned. This would give a teacher information on which films produce learning as well as make the viewers feel they learned and had fun.

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