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A STUDY IN SHOWING LOGICAL STRATEGY AND DEMEANOR IN THE MIDDLE SCHOOL

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ABSTRACT

Inequalities in working conditions and compensation systems are common for substitute teachers in elementary schools and junior high schools. However, the reason why these teachers persist in dedicating themselves to the role of substitute has not received much attention. The schools have acknowledged the responsibility of instructing understudies toward consumer proficiency. Homeroom science is presently worried about emphasizing a strategy for thought as opposed to the gathering of numerous irrelevant and unimportant realities. We have here the reason for an investigation of a few significant inquiries: first, regardless of whether it is conceivable to instill the logical attitude toward regular things as a piece of the educational plan; second, whether it is possible to build up a logical technique, at any rate in the buying of very much publicized products, on which buyer research investigations are made; third, to contemplate the worth and impact of current promoting on the middle school understudy; lastly, to build up an undertaking promptly identified with the current educational plan and furthermore identified with life outside the school.

INTRODUCTION

The shops in all schools are truly laboratories in which numerous young men have their underlying contacts with current materials and techniques for development. They have, likewise, the occasion to test these materials and strategies through real creation and use. The overall shop subjects could all around become "Modern Science."

For this investigation I chose three shop classes of eighth-grade young men, who had one and a half long periods of shop and general science. The gatherings numbered 9, 11 and 17. The normal age was 13 years, a half year.

The car stockpiling battery was all around adjusted for the examination, as it is a viable need, broadly advertised, and one with which the young men were new. It was alluring to forestall, however much as could reasonably be expected, solid, assumptions or biases. I was affected by my own absence of information as to comparative qualities, just as by the young men's absence of information on the activity of a capacity battery. The different battery organizations publicize in great periodicals, and late advancements in the business have offered ascend to new cases and new certifications.

The young men spend just two single periods seven days in the shop; in this manner the advancement of the venture took half a month. One fourth of every period was spent in discussion or trial (in around two hours with each gathering), yet numerous interviews occurred outside. Vendors, service men, and battery organizations coordinated. The library was a significant guide and the specialized manuals delivered by the companies were a wellspring of material that was particularly useful in showing the activity of the capacity battery. No bizarre emphasis was set on the undertaking. It was just essential for the day's worth of effort.

The general discussion of values and things that make for wise buying started with a new automobile as the focal point, and although it was agreed that the same ideas would doubtless apply to other things, the automobile was kept in mind.

Although the discussions varied, the same conclusions were reached by each class, almost in the same words, with the exception of the last, which was well supported by the boy who advanced it.

The conclusions are summarized below. Quotations are the expressions of the boys:

A. "Read advertisements carefully."

"Don't believe everything you read." "Advertisements in good magazines count for more than the ones found in cheap magazines." "Some advertisements are misleading." (General statements can give the wrong impression.)

B. "Talk to people who know."

"Don't pay too much attention to the man who is trying to sell you a car." "Ask several people and compare what they say."

"Ask the man who owns one." ("But sometimes he's prejudiced.")

C."Read up on it."

(The idea was advanced by the instructor that the purchaser might know little about cars. The idea of the technical manuals put out by the different companies was immediately offered, as an opportunity to learn and compare.)

D. "Test several cars."

"Consider the price. Compare only cars in the class you can afford." "If the choice narrows down to two cars, try them out again, in a different way, as on rough roads."

(The idea of experimentation was, of course, strong in this instance.)

E. "Make up your mind."

F. "Use your own judgment."

(This idea was, perhaps, not too well expressed, but the boy explained that his meaning was that when you were sure you had picked the right car, after careful thought and study, not to be concerned with the ideas or opinions of others.)

Note 1.—It was unnecessary to lead this discussion. The boys agreed that any opinions sought should be expert and unbiased, and they seemed to have established quite a definite relationship in the sequence of the steps to be followed.

It seemed to correlate so closely with established scientific method that nothing was added to the items given above. These main headings, by the way, were left on the blackboard throughout the entire experiment.

This seems to be the correlation:

1. Defining the problem.—Selecting a new car, inyour own price class.
2. Study the facts—analyze the data.—Read advertisements and technical manuals.
3. Turn to expert opinion.—Ask the man whoowns one. Get impartial opinions from mechanics.
4. Experiment.—Test the cars.
5. Verify.—Re-test possible choices under different conditions.

6. Judge.—Make up your own mind, unswayedby others.

METHODOLOGY

Advertisements by eight of the leading battery companies were cut from the *Saturday Evening Post* and *Colliers.* They were placed on a large bulletin board turned away from the class.

Continuing the thought of the previous lesson concerning cars, the instructor started a discussion concerning the things on a car that everyone should know how to maintain in working condition, if the car is to run. These were decided to be:

A. Gasoline.

B. Lubrication—Changing oil.

C. Care of tires.

D. Water for the radiator — Antifreeze in the winter.

E. The battery.

The motor and all mechanical devices were eliminated, the boys deciding that facts concerning these things could not be known to most women who operate cars.

It having been decided that the battery is one of the important essentials of the car, the question was asked, "If the battery in your car wore out, what battery would you buy?"

The replies were governed by the make of battery in the family car, when it was known, or by the familiar names of Lion, Exide, or Delco.

The bulletin board was turned around and the boys asked to go to the board and read the advertisements carefully. Each was to select a battery and write a paragraph telling why he selected it.

Attention was called to the headings on the board, and it was suggested that the boys "Talk to someone who knows" or "Ask the man who owns one" before the next meeting of the class.

As the period closed the instructor asked, "Just what are you going to ask about batteries?"

Price and how satisfactory they had been for others seemed to be the main objectives. It was decided that it might be a good idea to find out how storage batteries worked before going on, too far, with outside investigation.

In one of the groups this final procedure was not carried out and the investigation went on at home. In this group, the prejudice in favor of the battery used by the family was difficult to overcome, and with this group the experiment lacked the force noted in the others.

In the largest group, Procedures I and II were partially reversed, the experiments coming before the advertisements. In this group the success was greatest.

Each of the typical responses of the pupils was hastily written to express an opinion. No effort was made to impress the boys that it was unusual or important. It was simply to be used as a basis for future discussion.

The responses given herewith are chosen for their exemplification of the different reactions to the advertisements. The responses are as written by pupils and not corrected for English usage.

Pupil A. If I were buying an auto battery for general use I would buy an Auto-Lite—because the company which makes them has been in business for several years and makes good auto ignition equipment of all kinds. Auto-Lite batteries have fiber glass separators which no other company advertises. Wood will rot

away after a few years hard service. They advertise oversize plates but so do all other companies. I have used other Auto-Lite model "T" coils and they work well. They are not new-fangled, cheap junk like so much modern equipment but of original design and high quality.

Pupil B. I think the new Lion "H-R" is about the best. One advertiser states that their battery lasts 100% longer. But—100% longer than what? The Lion lasts 68% longer than 100 other kinds of batteries which have been tested. It is also supposed to give just as much power. Other batteries have good qualities like this also. A few makes evidently had nothing especially good about them, because the advertisements only stated that the batteries were good batteries and not good in any special way.

Pupil C. I chose the Goodrich battery because it is guaranteed to last as long as your car. It is a super power battery and has a special top cover that keeps all the power sealed in. You also can sell your old battery and get a trade-in allowance.

If anything happens to the battery the company will give you a new one without charge. There are heavy plates on this battery that store more power and it is used in submarines, planes, and trains.

Pupil D. From looking at the board, I would say that an Exide would be a good battery to buy. If it is, as they say, true that Exide batteries are used by police cars, elevators, and other large appliances, the batteries must be quite reliable. Another well-known battery is a Lion. If a Lion battery has as much power as is said in the advertisements they must pack enough power to give anyone good service. They are also packed in quite a durable case.

Pupil E. I think, by the advertisements on the bulletin board, that I would like the Lion battery.

Why, because it was a good advertisement, had plenty to say about the battery that was good. The battery looked like a strong powerful battery which is necessary to have in the car today. The battery was also powerful enough to give all the small implements in the car, that need a battery to run them with, plenty of zip. When the starter is pushed there is plenty of power which starts the motor right away. Forty-two thousand Lion dealers back it up.

Pupil F. The battery I choose, and think is the most effective is Exide. Our family uses this battery as many others, numerous others, and famous shops also use this storage battery. The New York police force which depends upon their radio and quick starting use it. The Lion and Exide are probably the best known and most widely used. It is contained in an economical case which keeps it from all the wear and tear of the engine. Also the fiber case withstands much wear. It also has moderate price.

The experiment material employed is here briefly described.*

1. An old, worn-out battery was secured. This battery was cut up by members of the class so that all parts of the case could be seen and the elements removed. The materials were then removed from the positive and negative plates so that the plate construction could be seen. The composition of the materials for each plate was simply explained. The separators were examined and their use

* All three classes had a basic understanding of simple electricity: the chemical action of a dry cell, the complete circuit, voltage, and direct current.explained. The condition of the wooden separators was noted.

2. A simple storage battery was constructed, using a laboratory battery-set, a tungar charger, two strips of lead, solution of sulphuric acid, voltmeter, and a door-bell to be rung by the charged battery. A strip

of wood was used as a separator (for effect) and the importance of the separator stressed. A hydrometer was used for a demonstration, and a simple explanation of specific gravity was given.

The cell was charged, timed; the bell rung for discharge, timed. The loss of voltage was noted. The condition of the plates after the experiment was studied. (The lead strips had been carefully cleaned before the experiment.) The color of the material formed was compared with the positive plate material of the battery that had been torn apart. The result of a short circuit between plates was shown.

3. An old battery that would take a charge but hold it only for a short time was secured from a local battery dealer. The specific gravity and voltage were noted and the battery was placed "on charge" over night. It was tested again the next day.

The Society of Automobile Engineers was discussed. The function of the S.A.E. was explained, and the classes agreed that the findings of this Society should be accepted as expert opinion.

Capacity ratings of the S.A.E. were explained and the mathematics of ampere- hours at the three capacity ratings worked out from the Delco handbook. The importance of temperature in relation to batteries was studied.

Cheap batteries were discussed. The lack of S.A.E. markings on the cases was noted. The price was checked in the relation to the amount that could be obtained for a worn-out battery, on a trade-in basis.

A brief discussion disclosed that the boys knew of the different organizations doing research investigations for consumers. It was agreed that they, also, would be accepted as expert opinion.

Committees volunteered for outside investigation.

Note 3.—It was agreed that committee investigations should be based on battery types of the same SAE rating, as to price and quality. This information was to be obtained from service stations, garages and factories, or main offices; and as to service, from people who had had experience with the type under question.

One committee was to look up any bulletins or reports on batteries by research organizations, available in the school library.

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Committees reported. (Except the Library Committee.)

Technical manuals secured by the committees were examined.

Model Exide and Goodrich batteries were brought in by their respective committees. These batteries had sides cut away to show major features of construction, and these differences were explained.

Note 4.—The boys borrowed the model batteries from local dealers. Letters were written to main offices for technical manuals, advertising material and separator samples.

The function of the generator of a car was discussed.

And old generator was examined.

The battery installation in the instructor's car was observed, to explain why batteries have different shapes, where they are installed, and why they sometimes fail to give good service.

A resume was made of the demands of the modern car and its appliances on the battery, with relation to its capacity.

Note 5.—Procedures IV and V were carried out almost simultaneously, rather than have the numerous committee reports lose their interest.

There is a small automotive shop in connection with the industrial arts department. The car was driven in during classes and in the regular period, as part of their shop-work, some of the boys tested the battery; cleaned and vaselined theterminal connections; added distilled water, and examined the cables for wear and breaks.

The battery advertisements on the bulletin board (which had not been in evidence since Procedure II) were again produced and discussed.

Misleading generalizations were sought. The importance of the new separator materials was discussed. The relation of the use of these new materials to price and the guaranty was brought out.The differences in guarantees were explained.

RESULTS

The boys were asked to vote on which of the batteries they would buy, giving their reasons. The summary of the votes of the three classes is given in Table I. The reasons given were: reputation of the company ; new construction features; life of the car guarantee; personal or family experiences; advertising.

TABLE I
First vote of three classes

	Class A	Class B	Class C	Total
Battery "A"	6	4	7	17
Battery "B"	6	2	2	10
Battery "C"	1	0	1	2
Battery "D"	2	0	0	2
Battery "E"	2	1	0	3
Battery "F"	0	0	0	0
Battery "G"	0	2	1	3
Battery "H"	0	0	0	0

The library committee, who had been examining research files, offered a report on batteries for the current year. It was given almost verbatim from the files.

This report concerned itself greatly with Battery "A". According to the bulletin, this battery, although in the high price range, failed to live up to its ratings, was poorer than batteries that cost one-third as much, and failed to carry necessary quality ratings on the case.

The classes were asked if there had been any change of opinion as a result of the previous report. Their vote is given in Table II.

TABLE II. SECOND vote of three classes

	Class A	Class B	Class C	Total
Battery "A"	1	2	0	3
Battery "B"	11	6	6	23
Battery "C"	0	1	1	2
Battery "D"	2	0	0	2
Battery "E"	0	0	1	1
Battery "F"	0	0	0	0
Battery "G"	3	2	1	6
Battery "H"	0	0	0	0

The reason for the shift from Battery "A" is obvious. The three boys who did not change had used this battery in the family car with good results for several years. The shift was to Battery "B" recommended in the report as a good buy as to quality and price; and to Battery "G", also well spoken of in the report, but a rather high priced battery, for its lifetime guarantee. It was pointed out by the defenders of Battery "A" that no mention was made in the report of the new separator materials or the lifetime guarantee, and that, therefore, the report was out of date. The committee countered with a research report three years old in which Battery "A" had received just such a poor rating.

CONCLUSION

The after effects of this investigation would appear to demonstrate that the normal middle school kid is well-suited to be intrigued by the monstrous kind of promoting. He is inclined to acknowledge deluding speculations, however is willing and can be prepared to search out current realities. He can turn into a decent purchaser, at an early age, through instructive encounters, contact with promoting mediums, individual school reserve funds, and liberal pocket cash.

A portion of the young men demonstrated bizarre capacity to recognize the solid focuses in publicizing, and the whole gathering got information in framing decisions. Biases, however, were effortlessly framed. When the instructor utilized a specific kind of battery for an exhibition, the class was slanted to support that battery. The kid additionally depends vigorously on the judgment of his dad, and the dad's connected past encounters. This is uprooted, be that as it may, with the accumulation of individual information. He is impressed by real examinations, when he comprehends the reason for the correlations. Deferent to master conclusion, he is eager to accept.

The instructing of purchaser proficiency certainly has its place in present day training. With the country burning through millions on automobiles, apparel, building materials, and food; and being relied upon to settle on savvy decision despite 20th century techniques for business rivalry; when bogus qualities are paraded before our eyes from announcement, paper and magazine, and dinned into our ears by means of the radio, at that point the school should begin ahead of schedule to help out the future purchaser.

It is my conviction that the investigation would have been useless if the research center technique had not been utilized. The useful work in connection with the examination continued interest and helped understanding.

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