

School of Life Foundation

Data Analysis Project

School Year 2012-2013

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Overview

The driving force behind this project was to discover what effect (if any) the school of life program had on students who participated in it during the 2012-2013 school year. Aside from just observing the effects, the goal was to discover what was perhaps causing those effects, and what was most effective in the school of life program.

This report will present a statistical representation of the findings from the data analysis. The data come from schools in the Saint George, Utah area, specifically, Vista, Diamond Valley Elementary, Desert Hills Sr. High, and Millcreek High School. This study includes students from grades 3 through 5 and 8 through 12.

Methodology

The method for the data collection was a very straight forward process. With outside help, a survey was composed which covered the topics presented in the Straight A's for Life book. This survey was adapted to meet the needs of the various schools which participated in the study.

In all cases, except for Millcreek High School, students would take the survey before beginning the School of Life course, and then take the survey again upon completion. This gave us a before the course and after the course paired sample. From this method the results of each student could be easily calculated and changes easily observed.

The exception to the method was Millcreek. At the request of Millcreek, the students would only take the survey after completing the course. The survey was therefore adapted to have students respond to how the course affected them in each of the tested areas.

Desert Hills High School had students complete surveys before and after the class, with the School of Life course being presented by the School of Life trainers. Desert Hills was also able to give specific GPA data on all of the participants in the course during the 2012-2013 school year. Vista and Diamond Valley Elementary Schools had the concepts of the course presented to them by classroom teachers.

Weaknesses

There were challenges involved in the study as well. Due to the varying groups to which the course was presented, the analysis could only focus on each group individually, rather than being able to have a cumulative analysis of all students involved.

Another challenge was to quantify variables which are not quantitative in nature. The survey was designed to find measurable data extremely closely related to each of the topics in the course. However, it is very difficult to quantify quality of life.

Another weakness was that the data relied on the honesty of the students answering the surveys. While there was neither advantage nor reason to give false information, it is known that a certain portion of the population will give bad information anyway. In the cases where it was apparent that no thought was given to answering the questions, the analysis moved forward neglecting those surveys in doubt of sincerity.

Results

This section will present the results, beginning with the grade schools, then with Millcreek, and it will finish with Desert Hills High School.

The results of Vista and Diamond Valley have been combined in this section. The sample size is 96 elementary students from grades 3 through 5. Since grade schools do not have GPA data, the focus of the analysis is to see in what life areas the students benefitted.

The areas of study were: Overall Happiness; Gratitude; Service; Positive Feelings; Goal Setting; Friendship; Organization; Planning; School Assignments; Peer Pressure; Courage.

To preserve the integrity of the trainers in relation to the topics studied, the questions used in the surveys will not be contained in this paper, but can be made available to outside inquiry by contacting the author. This contact information will be found at the end of the paper.

The results for each of the categories can be found in the following table:

Topic	After – Before Difference	Possible Range	Percent Change
Gratitude	0.271	0-3	9.03%
Service	0.646	0-10	6.46%
Positivity	0.469	0-7	6.70%
Goals	0.010	0-1	1.00%
Friendship	-1.948	0-10	-19.48%
Organization	0.156	0-3	5.20%
Planning	-0.021	0-7	-0.30%
School Assignments	0.208	0-4	5.20%
Peer Pressure	0.302	0-4	7.55%
Courage	0.344	0-4	8.60%
Happiness	5.542	0-100	5.54%

While the values in the table above seem to be small, the interest of the analysis is to see how the School of Life course affected these grade school children. In each case, a one-sample t-test was performed, checking to see if the difference is statistically significantly different than zero.

The following variables were statistically significant at the $\alpha = .05$ level (significant with 95% confidence):

Gratitude: $p = .0003$

Service: $p = .0362$

Positivity: $p = .0238$

Friendship: $p = .0000$ (negative change)

School Assignments: $p = .0073$

Peer Pressure: $p = .0004$

Courage: $p = .0012$

Happiness: $p = .0131$

Furthermore, an analysis was done to see which variables most greatly affected the happiness of the grade school students.

Regression output				<i>confidence interval</i>		
<i>variables</i>	<i>coefficients</i>	<i>std. error</i>	<i>t</i> <i>(df=185)</i>	<i>p-value</i>	<i>95%</i> <i>lower</i>	<i>95%</i> <i>upper</i>
Intercept	6.5625	10.6888	0.614	.5400	-14.5251	27.6500
Thanks	9.1054	2.8145	3.235	.0014	3.5528	14.6580
Goals	3.7204	4.4049	0.845	.3994	-4.9698	12.4106
Friends	0.8079	0.4917	1.643	.1020	-0.1621	1.7779
Plan	0.5485	0.7129	0.769	.4426	-0.8580	1.9551
Walk Away	3.6754	2.3211	1.583	.1150	-0.9038	8.2546
Challenges	7.6019	1.9558	3.887	.0001	3.7433	11.4605

The two variables which came back statistically significant are Gratitude and Courage. The other variables which were omitted from this output were omitted either due to collinearity (Positivity) or because they had no essential effect on the coefficients when removed from the analysis.

While these variables do show statistical significance, the author notes that in no way would the resulting equation be able to calculate a student's own perceived happiness by plugging in numbers. The point is that those who were more thankful and had higher levels of courage (according to their own accounts) very strongly tended to be happier.

At Millcreek High School, the following variables show statistically significant change ($n = 21$):

Gratitude: $p = .0000$

Service: $p < .0001$

Positivity: $p = .0365$

Planning: $p = .0008$

Happiness: $p = .0123$

It should be noted that the 'Friendship' variable was unable to be tested due to the format of the course at Millcreek. The following table shows the change in each variable at Millcreek:

Service	52.38%
Positivity	8.84%
Goals	4.76%
Planning	24.49%
Assignments	1.19%
Peer Pressure	9.52%
Courage	-1.19%
Happiness	13.19%

Finally, at Desert Hills, 43 students completed the School of Life course. The added benefit of Desert Hills was the ability to track the students' GPA (thanks to Justin Keate). The following variables showed a statistically significant change:

Positivity: $p = .0104$

Friendship: $p = .0132$

Organization: $p = .0012$

Planning: $p = .0108$

School Assignments: $p = .0087$

Peer Pressure: $p = .0028$

Happiness: $p = .0022$

GPA: $p = .0101$

There were three more variables, Gratitude (p -value = .0528), Goals (p -value = .0548), and Courage (p -value = .0646), which would have been significant had the hypothesis test been looking for improvement instead of just a difference (a one-sided test versus a two-sided test).

The following table shows the percentage change in each variable at Desert Hills High School:

Gratitude	8.33%
Service	7.34%
Positivity	21.38%
Goals	20.25%
Friendship	53.64%
Organization	22.42%
Planning	52.57%
Assignments	18.95%
Peer Pressure	18.73%
Courage	15.14%
Happiness	29.18%
GPA	6.78%

In the analyst's efforts to find which variables contributed most to happiness at the high school level, there were no variables which came to be statistically significant in the multiple regression test. Likewise, when using multiple regression to find which variables contributed most to the increase in GPA, there were no variables which came back statistically significant.

Conclusion

In conclusion, from the numbers presented, it appears with very high confidence, that the School of Life course had a great effect on the lives of the students who did the course in the 2012-2013 school year. Many aspects of their lives were affected positively through their participation in the course. Whether in 3rd Grade or 12th Grade or anywhere in between, the School of Life course helped these students to become better, happier people, and to perform better in school.

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