Immune Attack
Survey Results
High School
Gamer

Summary:

- **Hours per week play** - No significant difference between IA and Control Groups and by the number of hours they play video games per week.
- **Level Played -** A Significant Difference was evident with "gamers" the Level one evident less hours played over Level 2.
- **Gender -** A significant difference in gender population by hours reported played. IA males reported a significant amount of playing video games then IA females and Control males reported significant amount of playing video games then control females.
- **Hours played and results on test** - Overall, the gamers that reported 10 hours or more of play in the IA group scored better on the test of knowledge than the 0 and 5 hour groups. A Pearson correlation did not find significant results between groups (control and ia) and within groups.
- **Gamer & Mechanics of Test** - A significant difference was found between Gamers and scoring on the Mechanics part of the assessment. Gamers scored higher on the Mechanics then 5 hour players per week or Non – gamers (0 hours play per week)

RESULTS

IA and Control Populations:

There were 161 students or 47% who played an alternate computer game and served as the control.

There were 180 students or 53% who played the Immune Attack game

Game population:

To assess if a student is a "gamer" a survey question was asked regarding "How many hours a week do you play video games?" The hours of game play were sorted into the following results. Following are the results for all students that responded to this question:

How many hours a week do you play video games?	Aggregated into hours:	N = 336	100%
0	.0	128	38.1
1 – 5	5.0	117	34.8
5 - 10	10.0	35	10.4
10 - 15	15.0	15	4.5
15 - 20	20.0	7	2.1
20 - 25	25.0	12	3.6

25 - 30	30.0	5	1.5
35 - 40	40.0	4	1.2
45 - 50	50.0	13	3.9

Based on the number of responses by students, responses were aggregated into the following categories to identify those students by hours playing video games i.e. "gamers" versus "non-gamers":

- Low = 0 hours playing video games per week
- Mid = 5 hours playing video games per week
- High = 10 hours or more playing video games per week

Gamer Results by group:

IA and Control groups by Gamer/hours played per week:

Groups:	0 hours	5 hours	10 or more	Total N
IA	35%	37%	28%	178
control	41%	32%	27%	158

IA and Control groups' statistics by hours played per week:

Groups:	N	Mean	Std. Deviation	Sig. (2-tailed)
IA	178	1.92	0.79	0.45
Control	158	1.85	0.81	

- Overall, there was no significant difference between IA and Control Groups by the number of hours they play video games per week.

Multiple Comparisons Results "Did you play a game called Immune Attack?"

A comparison between groups was conducted using a one-way ANOVA to test for differences among number of hours playing video games per week by IA or control group.

hours game play	hours game play	Mean Difference	Sig.
0 hours	5 hours	.072	.50
	10 or more hours	.046	.77
5 hours	0 hours	-.072	.50
	10 or more hours	-.026	.92
10 or more hours	0 hours	-.046	.77
	5 hours	.026	.92

- Tukey post-hoc comparisons of the three groups indicate no significant differences among number of hours played by IA/Control for all three groups i.e. not statistically significant at $p > .05$ between groups by hours played.

Level reached:

Only the IA group was asked how far they reached in the game. Following are the results for all the IA group and the IA top 27% "gamer"

How far did you get in the game Immune Attack?	IA N= 180
Level 1	14%
2 and 3	20%
Level 4	18%
5 and 6	13%
Level 7	36%

IA students level reached by game play by "gamer" status

Level reached in game	0 hours	5 hours	10 hours
Level 1	22%	9%	6%
2 and 3	29%	18%	12%
Level 4	22%	14%	18%
5 and 6	14%	11%	14%
Level 7	13%	48%	49%

- Overall, approximately half of the gamers with 5 hours or more of reported video game reached level 7 in the Immune Attack game versus the 0 hours of game play at 13%
- However, caution must be used when interpreting the results as student numbers fall below 10 when

A descriptive statistics and an Anova were conducted on level reached by hours of game play. Following are the results:

ANOVA	N = 178	Mean	Std. Deviation	Sig.
0 hours	63	2.7	1.3	.000
5 hours	66	3.7	1.5	
10 hours	49	3.9	1.3	

- A Significant Difference was evident. As evident by the Means the 5 & 10 hours reached a higher level of game play over the non gamers (0 hours of play)

When Levels are aggregated into two levels to increase N, as evident by the following results:

Level reached in game	0 hours N= 63	5 hours N=66	10 hours N=49
Level 1, 2, 3,	51%	27%	18%
Level 4, 5, 6	49%	73%	82%

- Differences between groups become more evident

A t-test was conducted on Levels by hours played

T-test	N	Mean	Std. Deviation	Sig. (2-tailed)
Level 1, (1 2, 3)	59	1.6	0.7	0.0

Level 2 (4,5,6,7)	119	2.1	0.8	

- A Significant Difference was evident. As evident by the Means the Level one evident less hours played over Level 2.

GENDER

Population by gender by **reported hours of game play per week**. Results were aggregated into the following:

hours game play	% IA female	% IA male
0 hours – Lo	58.4	12.5
5 hours – Mid	33.7	40.9
10 or more hours – High	7.9	46.6

Question 10: How many hours a week do you play video games? IA population comparison Lo=0: mid=5: high= 10+ hours per week	N	Mean	Std. Dev	Sig. (2-tailed)
female	89	3.26	6.62	0.00
male	88	13.24	14.16	

- Overall, there was a significant difference in IA gender population by hours reported played. IA males reported a significant amount of playing video games then IA females.

hours game play	% control female	% control male
0 hours – Lo	61.8%	14.5%
5 hours – Mid	25.8%	40.6%
10 or more hours – High	12.4%	44.9%

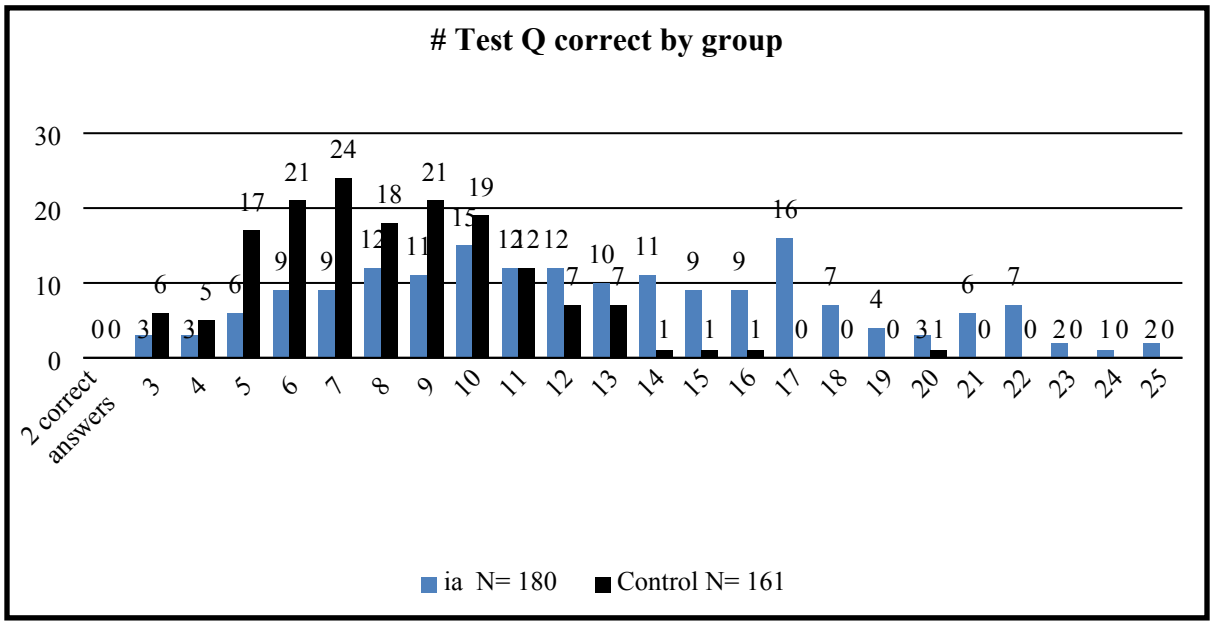
Question 10: How many hours a week do you play video games? Control population, Lo=0: mid=5: high= 10+ hours per week	N	Mean	Std. Dev	Sig. (2-tailed)
female	89	3.53	7.19	.000
male	69	11.30	12.85	

- Overall, there was a significant difference in Control gender population by hours reported played. Control males reported a significant amount of playing video games then control females.

ASSESSMENT OF KNOWLEDGE

There were 27 questions. Students' responses were given a 0 for incorrect or missing and a 1 for correct responses.

Following is a graph showing the test results for each student by their group (IA or Control)



To evaluation if there are correlations between groups a Pearson R correlation was computed. Following are the results for all students:

Questions		Group - Did you play a game called Immune Attack?	Gamer - How many hours a week do you play video games?	Correct - Number Correct Per Kid
Group - Did you play a game called Immune Attack?	Pearson Correlation	1	-.057	-.473**
	Sig. (2-tailed)		.300	.000
	N	341	336	341
Gamer - How many hours a week do you play video games?	Pearson Correlation	-.057	1	.049
	Sig. (2-tailed)	.300		.371
	N	336	336	336
Correct - Number Correct Per Kid	Pearson Correlation	-.473**	.049	1
	Sig. (2-tailed)	.000	.371	

	N	341	336	341

- Group x gamer = There was no statistical difference between ia and control by hours of games played per week, i.e. each group had the same amount of "gamers and non gamers" p> .300.
- Group x correct = There was statistical difference between the IA group and control group for the number of correct answers on the test. p<.00. The IA group correctly answered more questions than the control group.
- Gamer x correct .37 There was no statistical difference between How many hours per week is played and the number correct per kid. p> .371

Following are results for IA Group students

Correlations IA group		Question 10: How many hours a week do you play video games?	Number Correct Per Kid
Question 10: How many hours a week do you play video games?	Pearson Correlation	1	.016
	Sig. (2-tailed)		.834
	N	178	178
Number Correct Per Kid	Pearson Correlation	.016	1
	Sig. (2-tailed)	.834	
	N	178	180

- There was no statistical difference between How many hours per week is played and the number correct per kid. p> .834 within the IA group.

Following are the results for Control Group students

Correlations Control group		Question 10: How many hours a week do you play video games?	Number Correct Per Kid
Question 10: How many hours a week do you play video games?	Pearson Correlation	1	.049
	Sig. (2-tailed)		.539
	N	158	158
Number Correct Per Kid	Pearson Correlation	.049	1
	Sig. (2-tailed)	.539	
	N	158	161

- There was no statistical difference between How many hours per week is played and the number correct per kid. p> .539 within control group.

Item Analysis

An item analysis was conducted on the IA group results to evaluate the effectiveness of the test and the individual items within the test. Item analysis assesses responses of the individuals who took the test to assess how well they understood the subject matter. As such, and based on how students scored, results were aggregated into the following categories.

- 43 IA students or 24% scored between 2 and 8 questions correct placing them in the low scoring group
- 89 IA students or 49% scored between 9 to 16 questions correct placing them in the mid scoring group
- 48 IA students or 27% scored between 17 and 25 questions correct placing them in the high group.

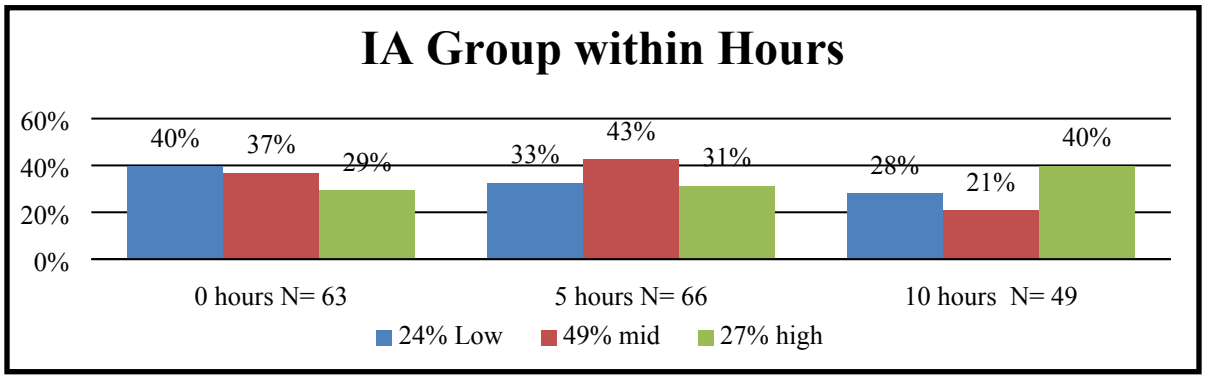
Following is a table showing how the IA group was sorted by correct answers and also shows how those results compared to the control group responses.

	IA N= 180	% Correct IA	Control N= 161	% correct control
2 correct answers	1 student		0 students	
3	3		6	
4	3	24%	5	57%
5	6		17	
6	9		21	
7	9		24	
8	12		18	
9	11		21	
10	15		19	
11	12		12	
12	12	49%	7	43%
13	10		7	
14	11		1	
15	9		1	
16	9		1	
17	16		0	
18	7		0	
19	4		0	
20	3		1	
21	6	27%	0	<.01%
22	7		0	
23	2		0	
24	1		0	
25	2		0	

Summarized:

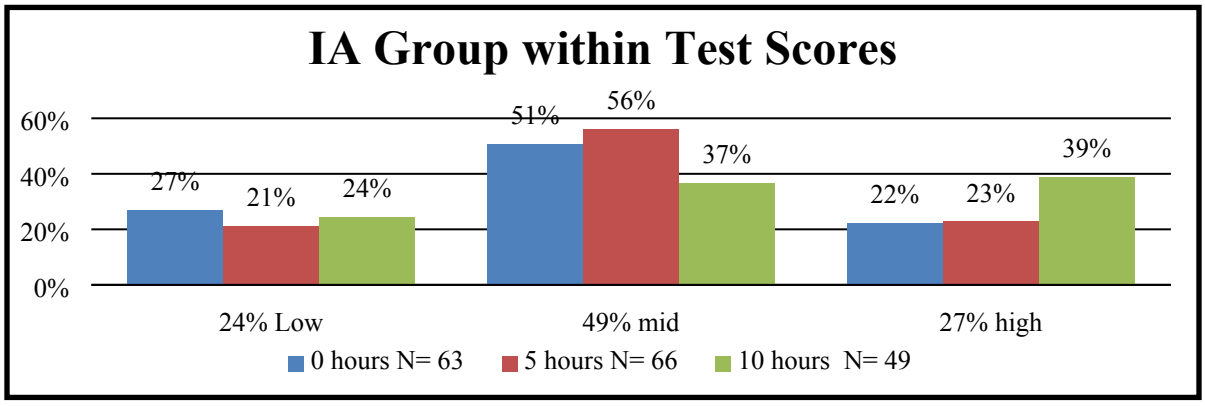
Correct Answers	IA Students N= 180	IA % Correct	Control Students N= 161	Control % correct
2 to 8 correct answers	43	24%	91	57%
9 to 16 correct	89	49%	69	43%
17 to 25 correct	48	27%	1	<.01%

Following are two graphs showing the IA group by hours played by test scores.
(1) The first graph shows students that reported their hours of game play by how well they performed on the test:



- As evident by the graph, there is not much different between Gamers versus non gamers to test results with the exception of the 10 hour group who had less individuals perform in the 24% and 49% percentile on the test of knowledge.

(2) The second graph shows the test scores by the reported Game activity of the students:



- The non gamer (0 hours per week of game play) students performed the most at the 49% or mid range of the test scores and performed the least at the 27% or top of the test scores.
- The mid gamer (5 hours per week of game play) students performed the most at the 49% or mid range of the test scores and the least in the 24% or low end of the test scores.
- The gamer (10 hours per week of game play) students performed the most at the 27% or top of the test scores and the least at the 24% or low end of the test scores.

Oneway ANOVA

Multiple Comparisons Item Analysis lo = 2 to 8 24%, mid = 9 to 16 49% hi = 17 to 25 27%		**N = IA group**	Mean	Std. Deviation	Sig.
0 hours	5 hours	63	1.9524	.70548	.873
	10 or more hours				.345
5 hours	0 hours	66	2.0152	.66777	.873
	10 or more hours				.612
10 or more hours	0 hours	49	2.1429	.79057	.345
	5 hours				.612

- A one way Anova showed no significance between hours played and scores on the test

Point-Biserial Correlation: (IA Group)

To understand each questions strength and direction a point-biserial correlation was conducted. This tells us that those students that performed well on the test selected certain answers. When looking at point-biserial correlations two objectives are evaluated:

1. Direction of the item, if there was a negative or positive result of the coefficient
2. Strength of the item which is determined by a score of the coefficient of .30 or higher to be considered "good."

Following are the test questions and the coefficient scores:

Item-Total Statistics	Point Biserial Correlation
Question 21: How do Macrophages recruit other cells to help fight an infection?	0.11
Question 15: What causes this change?	0.11
Question 34: To fight an infection, white blood cells must reach the site of infection. Which answer choice below correctly orders the stages and processes that the white blood cell goes through to reach the infection site and fight the bacteria.	0.12
Question 37: If a Macrophage had no LPS Receptors what would happen?	0.18
Question 28: When there is an infection near a vein, what happens to the cells of the vein wall?	0.19
Question 17: Of the things listed below, which is the first line of defenses the body employs against potential pathogens?	0.21
Question 42: What makes macrophages different from T-cells?	0.23

Question 41: If a person was missing Selectin protein on her veins, what would help her?	0.24
Question 18: Transmigration of Monocytes (white blood cells) is a multi-step process. Please refer to the picture above, and choose the answer that lists the steps in the correct order.	0.25
Question 35: Which of the following would be seen on normal healthy vein cells?	0.26
Question 12: What kind of cell is this?	0.27
Question 31: What role do Macrophages play when the immune system is fighting an infection?	0.29
Question 43: Macrophages track down bacteria and T-Cells do not. Why are they act differently?	0.29
Question 14: When there is an infection near a vein, what happens?	0.30
Question 27: What is the name of the protein that will make a slowed Monocyte come to a stop?	0.34
Question 39: If you learned that the plastic bottle factory next door was making a chemical that acts like C3a, would you be worried?	0.34
Question 29: What is the name of the protein that will make a monocyte slow down?	0.35
Question 19: What is C3a (cytokine)?	0.35
Question 30: How do cells of the immune system get to the site of an infection?	0.36
Question 40: What might happen if a cell is missing one kind of protein?	0.37
Question 20: How do Macrophages hunt bacteria?	0.38
Question 38: If a patient has no Selectin proteins in their body, what would their symptoms be?	0.41
Question 13: Which cells are the first to respond to a bacterial infection?	0.42
Question 36: A monocyte rolls along the vein wall, but does not stop to transmigrate. What went wrong?	0.49
Question 44: If a patient is missing the chemical signal C3a, what would her symptoms be?	0.50
Question 16: When a white blood cell leaves the blood stream what is the process called?	0.51
Question 32: Why do Monocytes start rolling on vein walls?	0.53

- There were no negative results, indicating that those students that performed well on the test also selected that particular test item.
- There were test items with coefficient scores below the desired .30 score. Approximately half or 13 test items had a coefficient score below .30. This indicates that the item is not doing well discriminating between those students who did well on the test and those that

did poorly. Approximately half or 14 test questions had a coefficient score above .30. This indicates that these test items did well discriminating those that did well on the test versus those that did not do well on the test.

Cronbachs Alpha

To assess the extent to which scores achieved on the test are precise or stable indicators of the students' true level of knowledge a cronbach alphas test was utilized. Coefficients greater than .70 are considered acceptable. Following are the IA group test results:

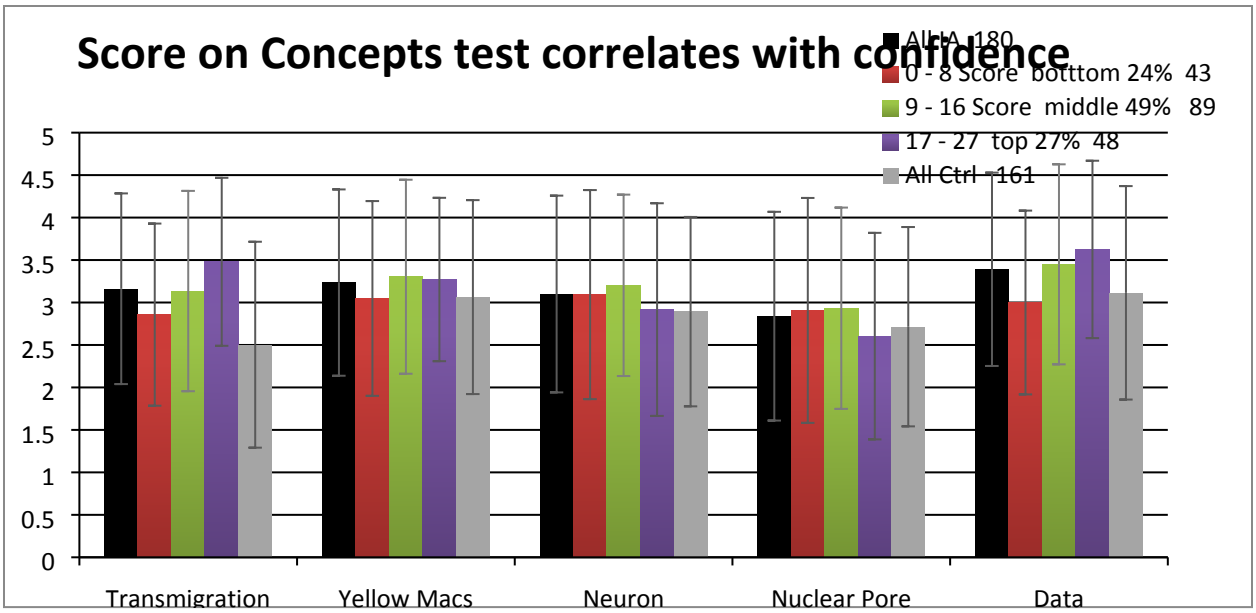
Cronbach's Alpha	N of Items
0.79	27

Following is a table showing the different groups by test q by % correct per question:

Mean comparison - Item difficulty	Control	IA	IA top 27% N= 48
Question 15: What causes this change?	.24	.33	.42
Question 37: If a Macrophage had no LPS Receptors what would happen?	.19	.32	.46
Question 35: Which of the following would be seen on normal healthy vein cells?	.20	.32	.50
Question 41: If a person was missing Selectin protein on her veins, what would help her?	.30	.29	.52
Question 34: To fight an infection, white blood cells must reach the site of infection. Which answer choice below correctly orders the stages and processes that the white blood cell goes through to reach the infection site and fight the bacteria.	.29	.37	.56
Question 21: How do Macrophages recruit other cells to help fight an infection?	.27	.42	.58
Question 39: If you learned that the plastic bottle factory next door was making a chemical that acts like C3a, would you be worried?	.37	.36	.58
Question 42: What makes macrophages different from T-cells?	.33	.38	.60
Question 17: Of the things listed below, which is the first line of defenses the body employs against potential pathogens?	.14	.44	.60
Question 28: When there is an infection near a vein, what happens to the cells of the vein wall?	.34	.42	.65
Question 12: What kind of cell is this?	.33	.43	.65
Question 30: How do cells of the immune system get to the site of an infection?	.31	.47	.73
Question 31: What role do Macrophages play when the immune system is fighting an infection?	.40	.55	.75
Question 18: Transmigration of Monocytes (white blood cells) is a multi-step process. Please refer to the picture above, and	.23	.54	.77

choose the answer that lists the steps in the correct order.			
Question 20: How do Macrophages hunt bacteria?	.40	.44	.79
Question 27: What is the name of the protein that will make a slowed Monocyte come to a stop?	.29	.58	.79
Question 29: What is the name of the protein that will make a monocyte slow down?	.26	.54	.81
Question 16: When a white blood cell leaves the blood stream what is the process called?	.21	.48	.83
Question 38: If a patient has no Selectin proteins in their body, what would their symptoms be?	.42	.54	.83
Question 44: If a patient is missing the chemical signal C3a, what would her symptoms be?	.26	.43	.83
Question 14: When there is an infection near a vein, what happens?	.20	.58	.83
Question 40: What might happen if a cell is missing one kind of protein?	.43	.56	.85
Question 43: Macrophages track down bacteria and T-Cells do not. Why are they act differently?	.44	.52	.85
Question 36: A monocyte rolls along the vein wall, but does not stop to transmigrate. What went wrong?	.30	.58	.88
Question 19: What is C3a (cytokine)?	.53	.60	.92
Question 13: Which cells are the first to respond to a bacterial infection?	.16	.62	.92
Question 32: Why do Monocytes start rolling on vein walls?	.32	.61	.94
Number Correct Per Kid	8.1	12.7	19.5

- Overall, a mean item difficulty of between .40 to .60 is desirable indicating that the students are correctly answering the item. The IA group has 20 out of 27 items that fall within this range. 7 items fall below .40.



Standard Deviation

Results were aggregated by 1 Standard Deviation (SD). If a student scored between 0 and 15 they were below 1sd above the mean. If a student scored 16 correct answers or more they answered 1 SD above the mean. Following are the results for ALL students:

All students	N = 341	100%
below +1 SD from the mean	282	83
Above 1 SD from the mean	59	17

	IA	control	Total
below +1 SD from the mean	123	159	282
	43.6%	56.4%	100.0%
Above 1 SD from the mean	57	2	59
	96.6%	3.4%	100.0%

Between Groups

Below 1 SD	**IA**	**Control**
0 Hours	38.0%	41.4%
5 Hours	38.0%	31.8%
10 or more hours	24.0%	26.8%

- Overall, approximately the same percentage of students who obtained a score 1 SD below the 1st SD scored similarly to each other by their reported hours of playing video games.

- However, the 10 hours or more reported were a smaller percentage in this graded category compared to the other groups, i.e. IA24% and Control 26% versus the 0 and 5 hours of play.

Above 1 SD	**IA**	**Control**
0 Hours	29.8%	.0%
5 Hours	35.1%	.0%
10 or more hours	35.1%	.0%

- Overall, more IA students scored above 1 SD from the mean with the 5 and 10 hours reported a higher percentage.

Within Groups

IA	Below 1 SD	Above 1 SD
0 Hours	73.0%	27.0%
5 Hours	69.7%	30.3%
10 or more hours	59.2%	40.8%

- Overall, the 10 hours or more students in the IA group scored better then the 0 and 5 hour groups.
- However, a Pearson Chi-Square Tests conducted on the IA group, did not find significant results p>.277.

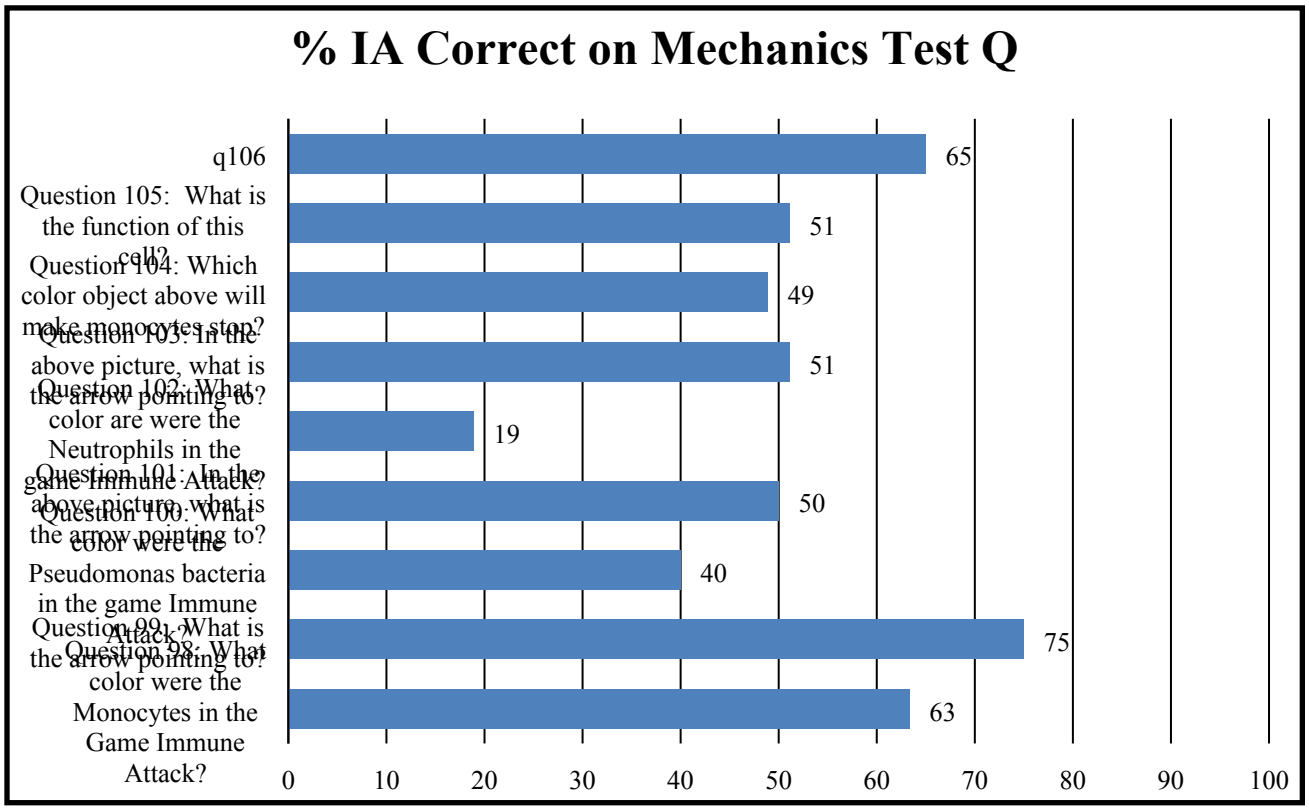
A closer look within the IA group:

Hours played	Hours played	Sig.
0 hours	5 hours	.91
	10 or more hours	.26
5 hours	0 hours	.91
	10 or more hours	.45
10 or more hours	0 hours	.26
	5 hours	.45

- A Tukey post-hoc comparisons of the IA group by hours played to their test assessment scores (both by aggregate SD and with no breakdown) indicate no differences among number of hours played by IA group Assessment scores by hours played i.e. not statistically significant at $p > .05$. p=.35

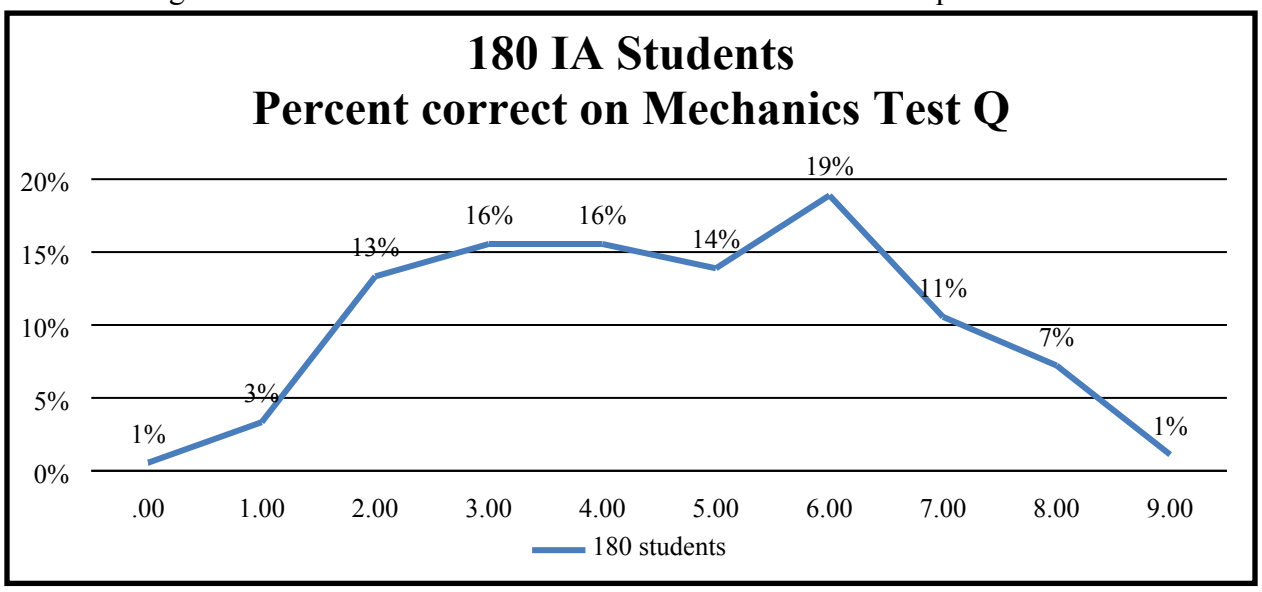
Mechanism Questions

Following is a graph showing the % correct by the IA students who answered questions examining how well a student could remember the visual components in the game to the concepts and vocabulary assigned to those questions.



- Overall, the IA group answered 6 out of 9 questions, or 67% of questions correctly at 50% or more.

The following table shows the IA students' %correct on the mechanism questions:



- Results, overall, mirror the bell curve: results are broken down below:

Mechanics Q	100%	180 students
.00 correct	1%	1
1.00	3%	6
2.00	13%	24
3.00	16%	28
4.00	16%	28
5.00	14%	25
6.00	19%	34
7.00	11%	19
8.00	7%	13
9.00 correct	1%	2

The descriptive statistics for Mechanics questions:

Statistics	Mechanics Q
N	180
Mean	5
Std. Error of Mean	0
Median	5
Mode	6
Std. Deviation	2
Variance	4
Range	9
Minimum	0
Maximum	9

Analysis for Gamer by correct for Mechanics questions

ANOVA Mechanics x gamer	N	Mean	Std. Deviation	Sig.
0 hours	63	4.4762	1.75846	.471
5 hours	66	4.6364	2.00489	
10 or more hours	49	4.9388	2.23055	

When looking at differences by groups by hours played by gamer status no significant difference is evident

Top Scorers

However, when looking at the top scorers in the group who answered the mechanics questions correctly we obtain different results.

Results of those students that scored 5 or more correct by gamer status:

Mechanics x gamer	180	100.0
0 to 4 correct	87	48.3
5 to 9 correct	93	51.7

Mechanics from 5 or more correct	N	Mean	Std. Deviation	Sig. (2-tailed) T-Test
0 to 4 correct	85	1.8	.76	.12
5 to 9 correct	93	2.	.81	

- No significant difference

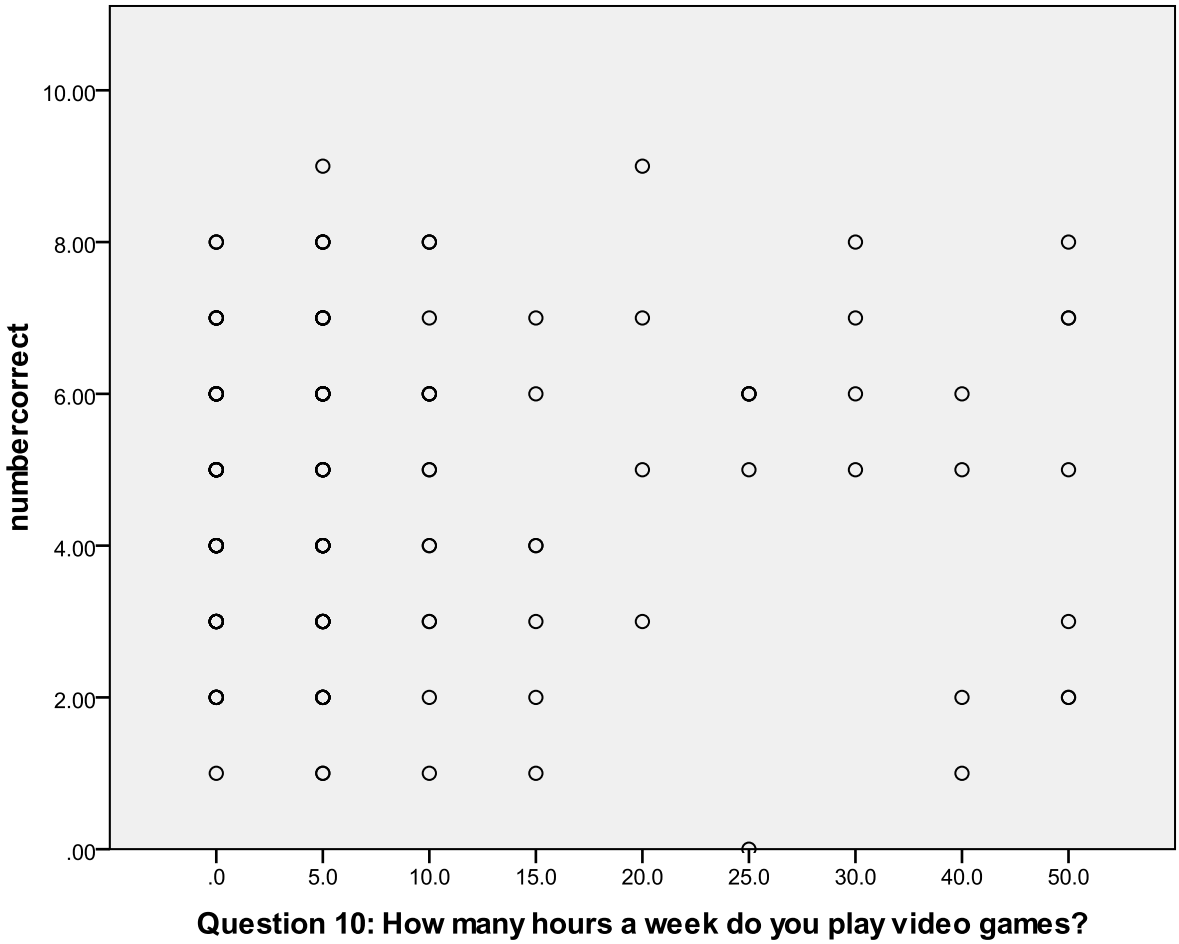
Gamers that obtained 6 or more correct out of 9 questions

Mechanics From 6 or more correct x gamer	N= 180	Valid Percent
0 to 5 correct	112	62.2
6 to 9 correct	68	37.8

Mechanics From 6 or more correct x gamer	N	Mean	Std. Deviation	Sig. (2-tailed) T-test
0 to 5 correct	110	1.8	.78	.043
6 to 9 correct	68	2.0	.80	

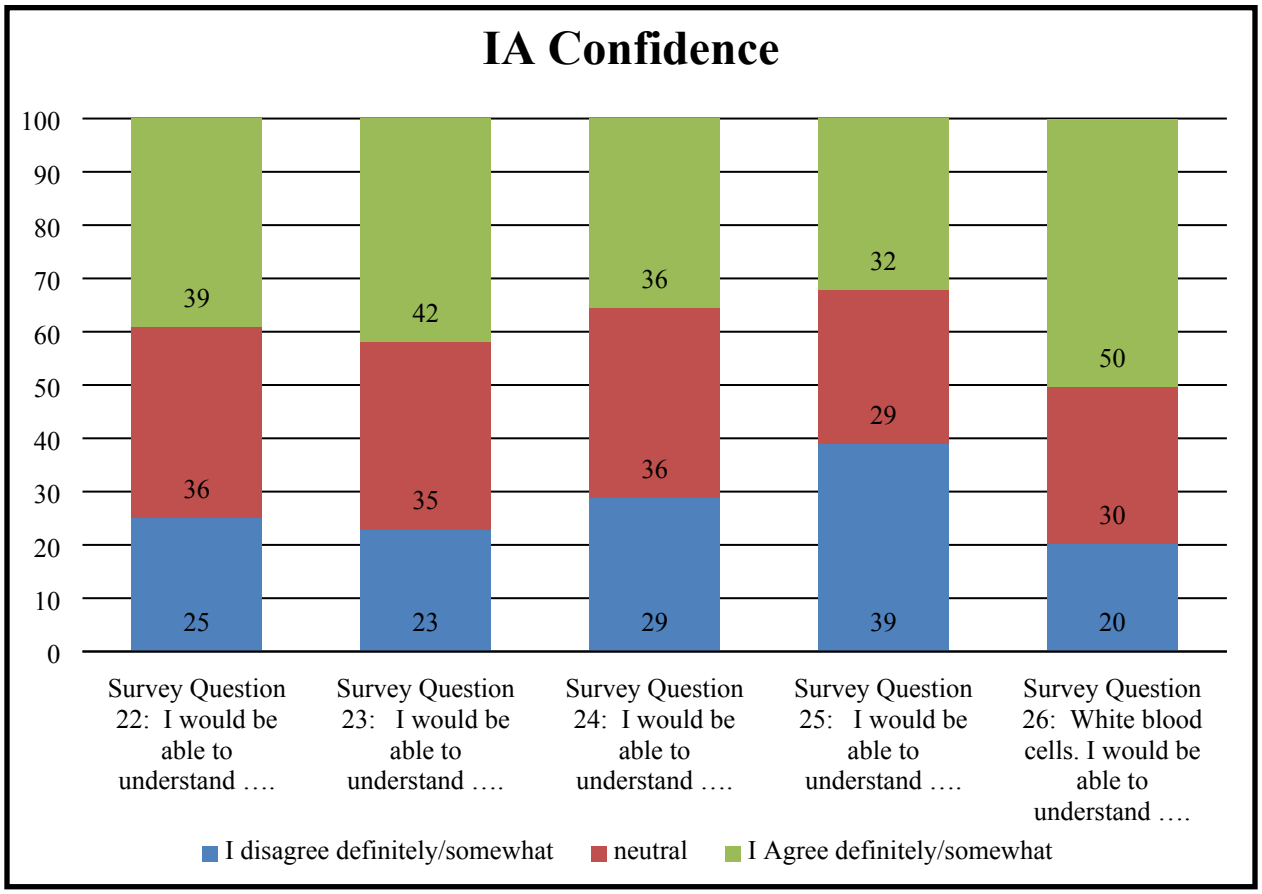
- A significant difference was found between those students that obtained 6 or more correct and gamers.

Following is a scatter plot showing all the scores for gamer by correct on the Mechanism quesitons


numbercorrect
10.00
8.00
6.00
4.00
2.00
.00
.0
5.0
10.0
15.0
20.0
25.0
30.0
40.0
50.0
Question 10: How many hours a week do you play video games?

CONFIDENCE

IA group % of agreement	Survey Question 22: I would be able to understand this diagram if I read it and thought about it.	Survey Question 23: I would be able to understand this diagram if I read it and thought about it.	Survey Question 24: I would be able to understand this diagram if I read it and thought about it.	Survey Question 25: I would be able to understand this diagram if I read it and thought about it.	Survey Question 26: White blood cells cling to cells .. Selectin proteins. I would be able to understand this diagram if I read it and thought about it.
I disagree definitely/somewhat	25	23	29	39	20
neutral	36	35	36	29	30
I Agree definitely/somewhat	39	42	36	32	50



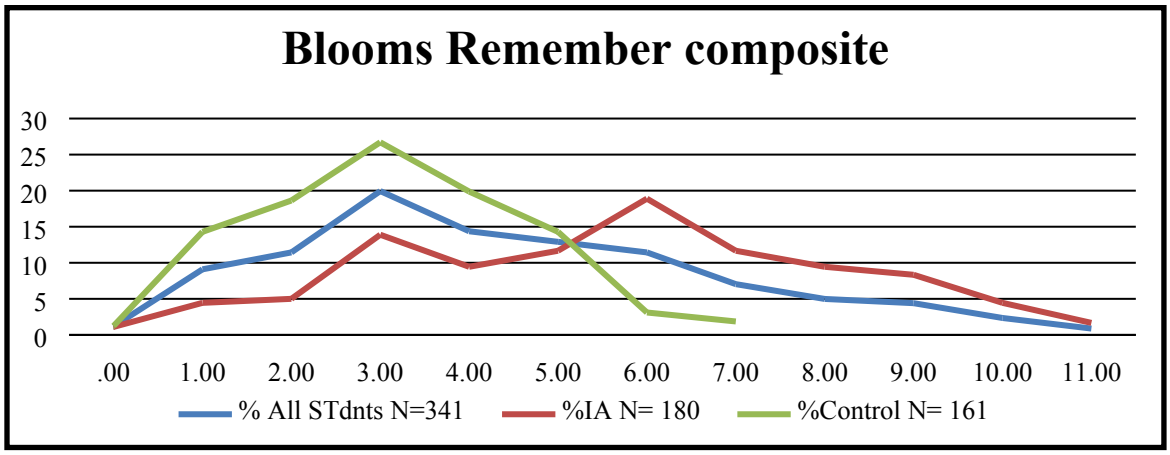
ANOVA - Between Groups by gamer status	Sig.
Question 22: Transmigration	.042
Question 23: Yellow Macrophages	.527
Question 24: Neurons	.350
Question 25: Nuclear Pore	.417
Question 26: Data	.925

Multiple Comparisons			N	Mean	Std. Dev.	Sig.
Question 22: Transmigration	0 hours	5 hours	62	2.9	1.1	.074
		10+ hours				.079
	5 hours	0 hours	66	3.3	1.2	.074
		10+ hours				.990
	10+ hours	0 hours	49	3.3	1.0	.079
		5 hours				.990
Question 23: Yellow Macrophages	0 hours	5 hours	62	3.2	1.1	.990
		10+ hours				.626

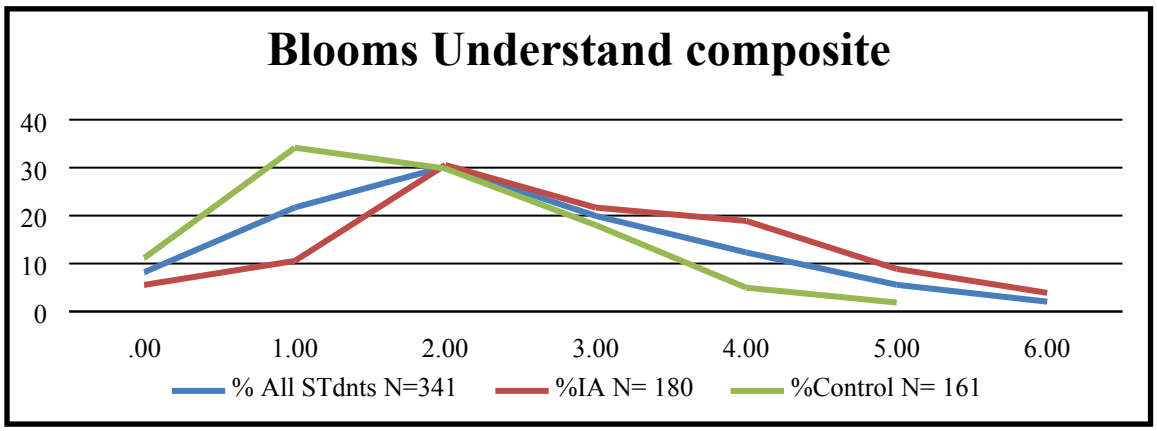
	5 hours	0 hours	66	3.2	1.1	.990
		10+ hours				.536
	10+ hours	0 hours	49	3.4	1.1	.626
		2.00				.536
Question 24: Neurons	0 hours	5 hours	63	2.9	1.2	.371
		10+ hours				.505
	5 hours	0 hours	66	3.2	1.2	.371
		10+ hours				.991
	10+ hours	0 hours	49	3.2	1.0	.505
		5 hours				.991
Question 25: Nuclear Pore	0 hours	5 hours	63	2.7	1.2	.506
		10+ hours				.480
	5 hours	0 hours	66	2.9	1.3	.506
		10+ hours				.991
	3.00	0 hours	49	2.9	1.2	.480
		5 hours				.991
Question 26: Data	0 hours	5 hours	63	3.4	1.2	.995
		10+ hours				.922
	5 hours	0 hours	65	3.4	1.1	.995
		10+ hours				.953
	10+ hours	0 hours	49	3.4	1.1	.922
		5 hours				.953

BLOOMS

remember Questions	% All Stdnts N=341	%IA N= 180	%Control N= 161
.00	1	1	1
1.00	9	4	14
2.00	11	5	19
3.00	20	14	27
4.00	14	9	20
5.00	13	12	14
6.00	11	19	3
7.00	7	12	2
8.00	5	9	
9.00	4	8	
10.00	2	4	
11.00	1	2	

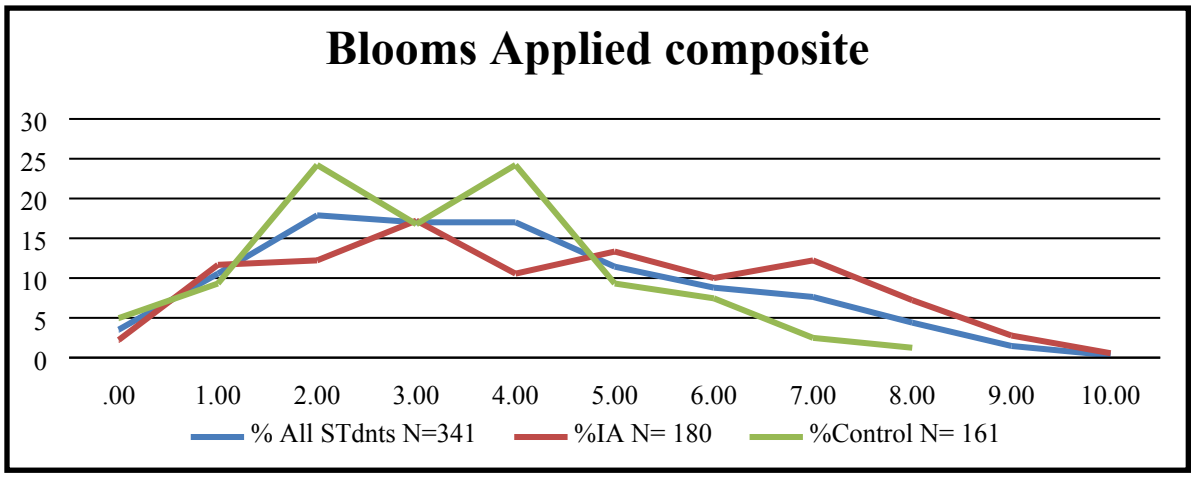


understand	% All STdnts N=341	%IA N= 180	%Control N= 161
.00	8	6	11
1.00	22	11	34
2.00	30	31	30
3.00	20	22	18
4.00	12	19	5
5.00	6	9	2
6.00	2	4	



qapplied	% All STdnts N=341	%IA N= 180	%Control N= 161
.00	4	2	5
1.00	11	12	9
2.00	18	12	24
3.00	17	17	17
4.00	17	11	24

5.00	11	13	9
6.00	9	10	7
7.00	8	12	2
8.00	4	7	1
9.00	1	3	
10.00	0	1	



CONCEPT UNDERSTANDING COMPOSITES