

University Library System



INFORMATION LITERARY TEST AT
UNIVERSITY OF PITTSBURGH, GREENSBURG
CAMPUS WITH CUSTOM QUESTIONS IN
MAP-WORKS FALL TRANSITION SURVEY: Fall
2014 administration

Strategic Assessment Unit, ULS
April 2015

MAP-Works (now Skyfactor) survey is a tool adopted by Student Affairs Office at University of Pittsburgh Greensburg campus to analyze different factors and behaviors in order to identify areas, which could increase the likelihood of students dropping out of school and develop appropriate interventions. Based on student responses to the survey and other data available through existing student records a personalized report is created for each student. If students rank on certain items below average, then they are directed to their “dashboard” where they are informed how they are performing in relation to their peers and what campus resources are available to them to address potential issues. Each student is assigned a retention risk indicator that range from “Low” to “Very High.”

MAP-Works gives institutions the opportunity to add locally developed questions to the survey. Greensburg Library asked 20 specific questions in the Fall 2014 survey, ten of which related to information literacy. This report looks at the distribution of answers to these questions, how information literacy relates to retention and academic risk, and what factors and behaviors can be identified among higher risk students that could be relevant to library services.

Fig. 1: Factors used by MAP-Works

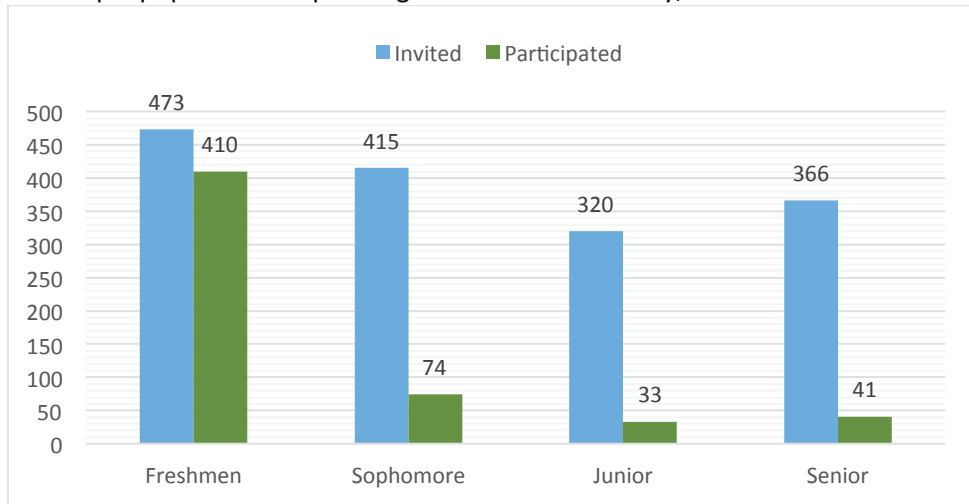


Image from Skyfactor.com

POPULATIONS

The survey was administered to freshmen as part of their Freshmen Seminar and was mandatory. For the other cohorts the participation in the survey was voluntary, hence the much lower response rate (see Fig. 2).

Fig. 2: Sample population responding to MAP-Works survey, Fall 2014



Figures 3 thru 56 show the distribution of selected majors by each student cohort. While among Freshman and Sophomore groups we had majority of students un UNK major groups, among Juniors and Seniors we see the majority of respondents studying for BS degrees.

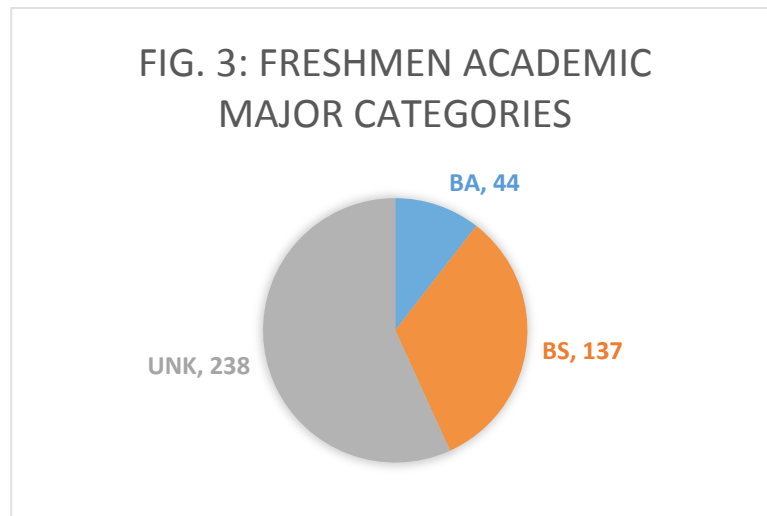


FIG. 4: SOPHOMORE ACADEMIC MAJOR CATEGORIES

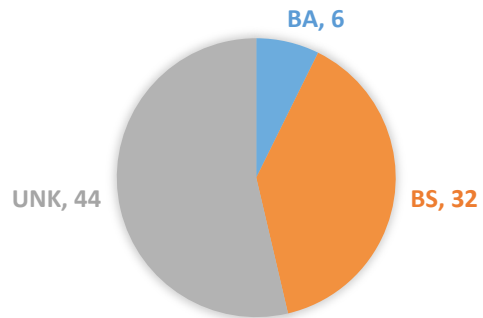


FIG. 5: JUNIOR ACADEMIC MAJOR CATEGORIES

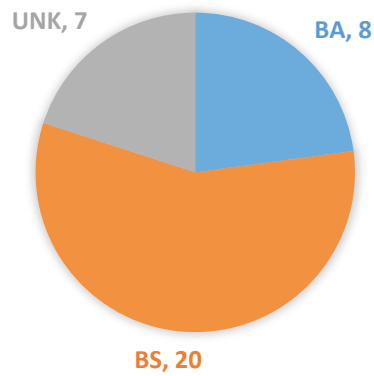
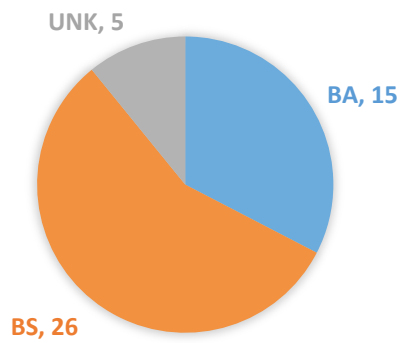
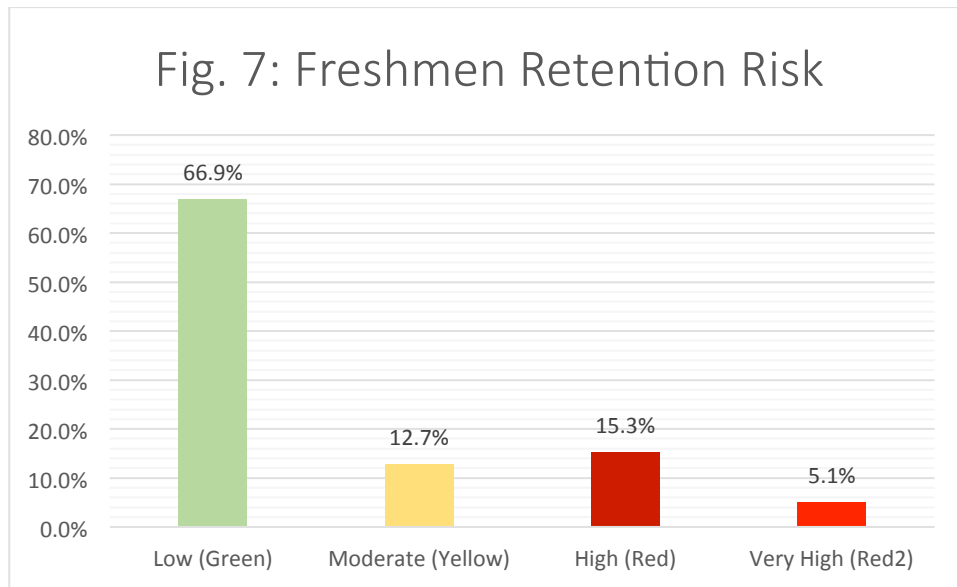


FIG. 6: SENIOR ACADEMIC MAJOR CATEGORIES



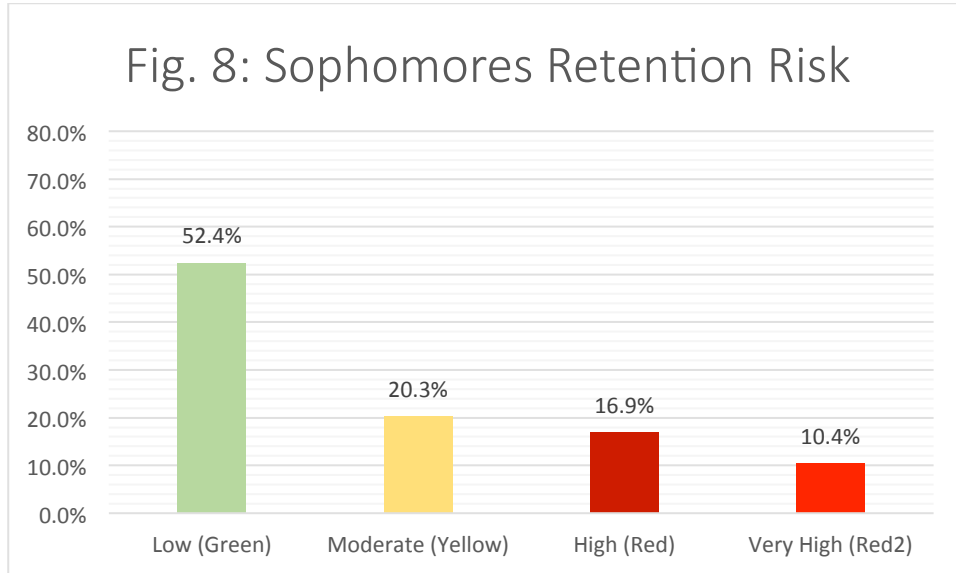
MAPWORKS RETENSION RISK

This is the distribution of freshmen according to the Retention Risk level, as predicted by MapWorks analysis. The entire sample is included here. MapWorks assigns a level of risk even to students who did not take the survey based on demographic and pre-existing data. They are included in this chart.



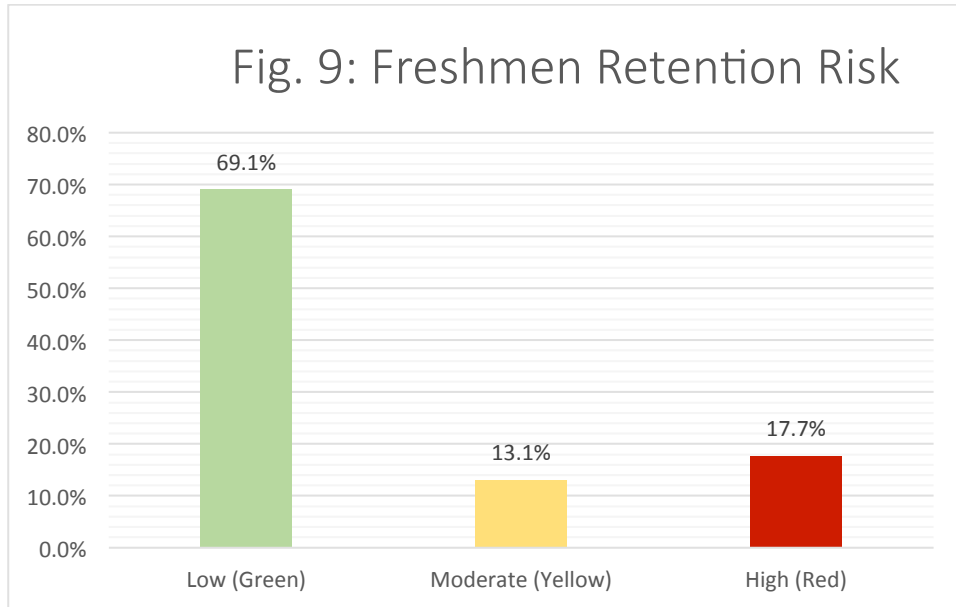
	Frequency	Percent
Very High (Red2)	24	5.1
High (Red)	72	15.3
Moderate (Yellow)	60	12.7
Low (Green)	316	66.9
Total	472	100.0

This is the distribution of sophomores according to the Retention Risk level, as predicted by MapWorks analysis. The entire sample is charted here, including sophomores who didn't take the survey.



	Frequency	Percent
Very High (Red2)	43	10.4
High (Red)	70	16.9
Moderate (Yellow)	84	20.3
Low (Green)	217	52.4
Total	414	100.0

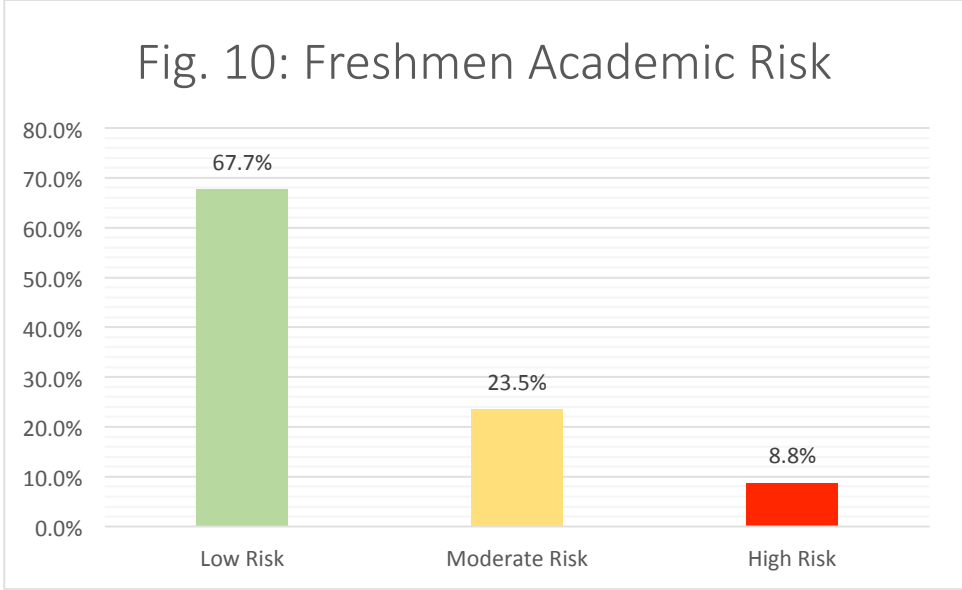
In the freshmen population, the High Risk (Red2) category has 24 students. Out of those 24, only nine students took the survey. I eliminated the other 15 from the raw data and included the nine in the High (Red) category. Now the Risk variable has only three levels: Low, Moderate, and High. These three levels were used for further analysis.



	<i>Frequency</i>	<i>Percent</i>
High (Red)	81	17.7
Moderate (Yellow)	60	13.1
Low (Green)	316	69.1
Total	457	100.0

FRESHMEN ACADEMIC RISK

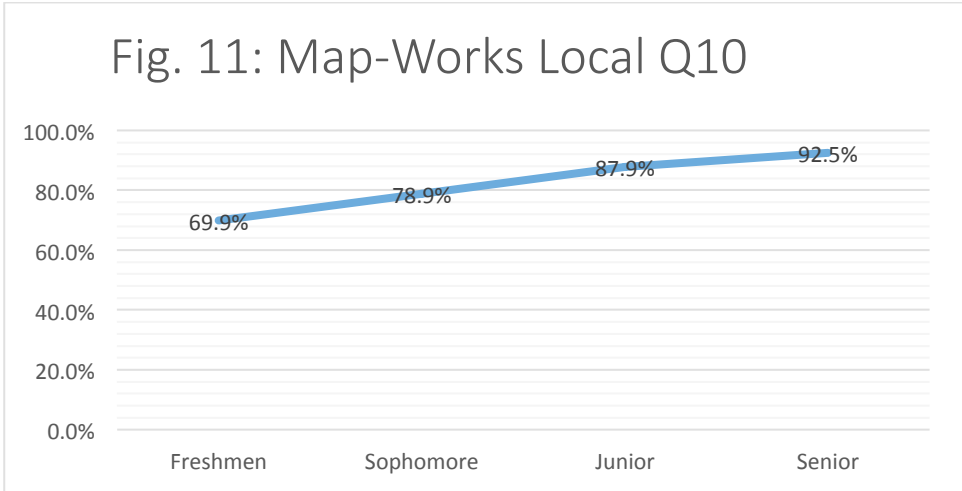
- Low Risk: No course with a deficiency or unsatisfactory grade reported
- Moderate Risk: One course with a deficiency or unsatisfactory grade reported
- High Risk: Two or more courses with deficiencies or unsatisfactory grades reported



	Valid Percent	Frequency
High Risk	8.8%	40
Moderate Risk	23.5%	107
Low Risk	67.7%	308
Total	100.0%	455

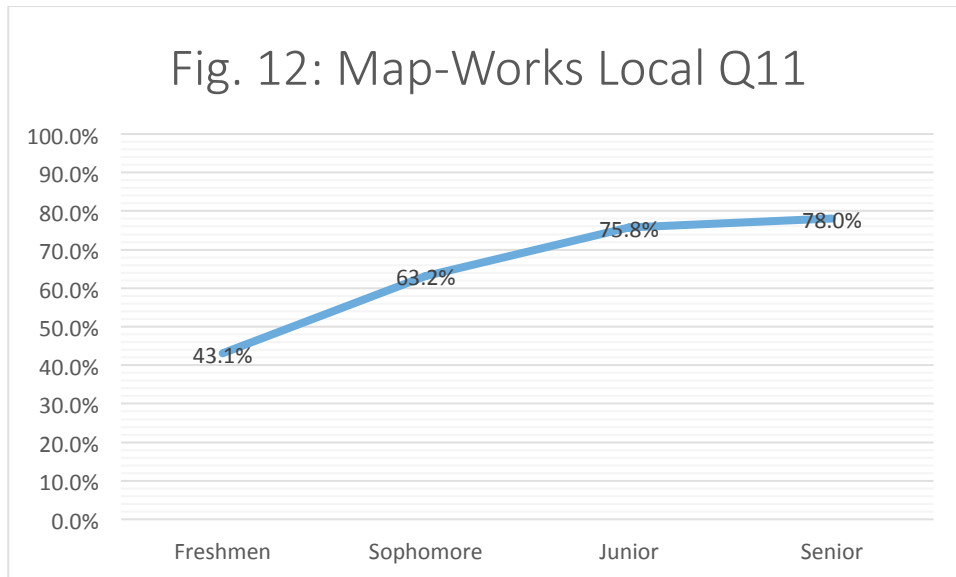
INFORMATION LITERACY QUESTIONS

The following graphs show only the percentages of students who gave the right answer and how they compare across cohorts. Question 10 - Which of these options best describes what a peer-reviewed or scholarly article is? Answer: An article written by an expert in his/her field reviewed by other experts prior to publication.



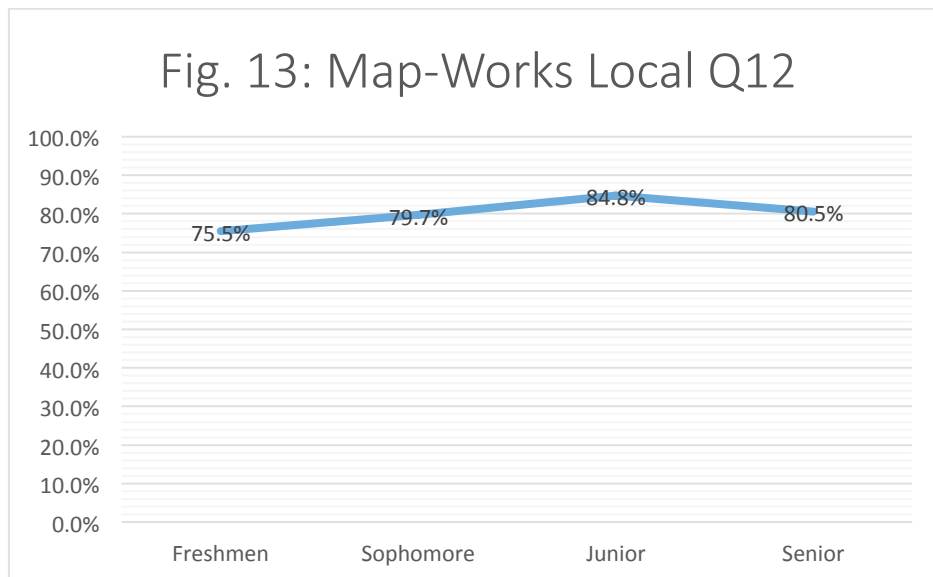
Question 11- Which of the following is characteristic of a peer-reviewed or scholarly article?

Answer: A bibliography or reference list.



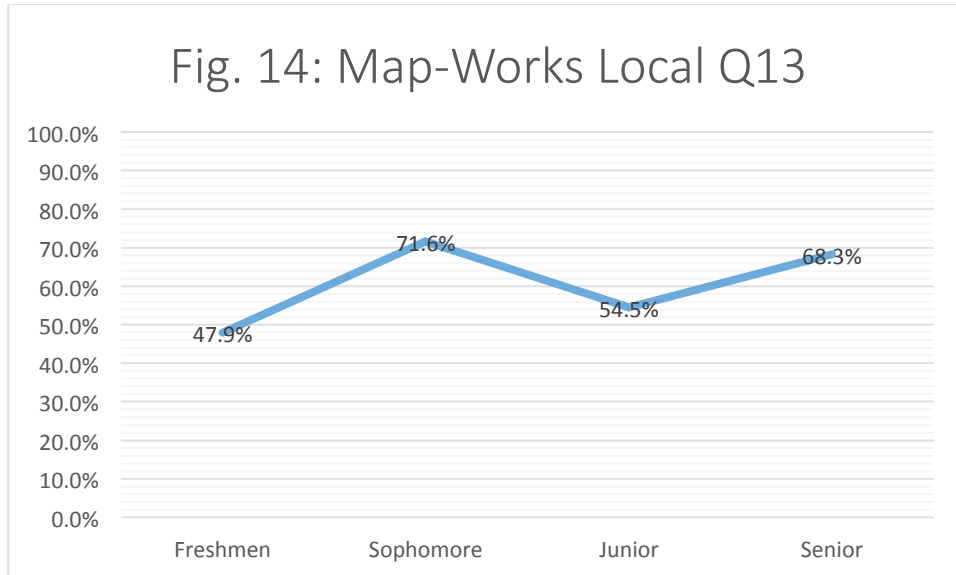
Question 12 - Your professor says that you may not cite an encyclopedia as a source in your paper. Why might you still consult an encyclopedia?

Answer: Because encyclopedias give background information on many topics.



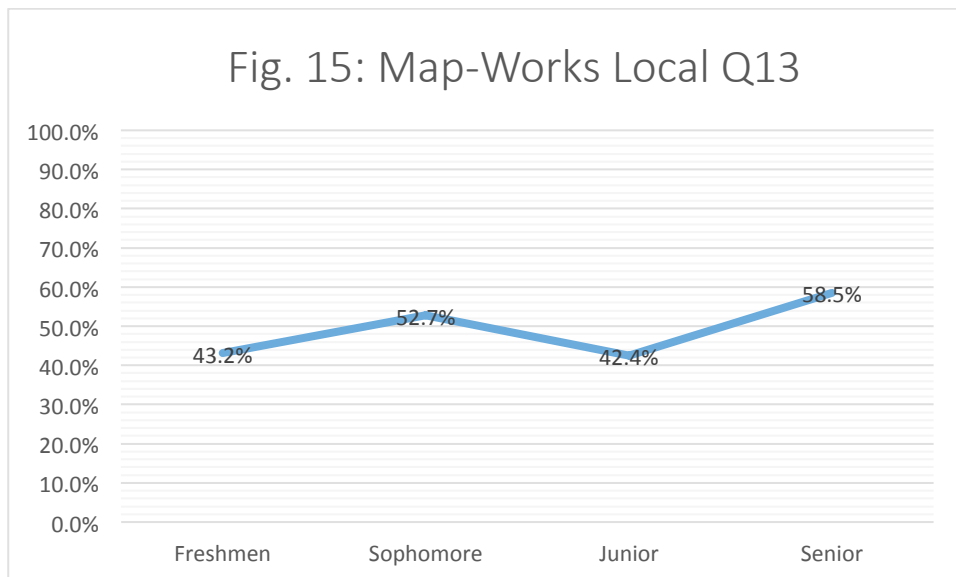
Question 13 - Your professor assigned a 3-5 page paper about health care reform. Is the topic "health care reform...":

Answer: too broad for the assigned page length?



Question 14 - In which of the following cases would you use "OR" to combine search terms when searching for articles?

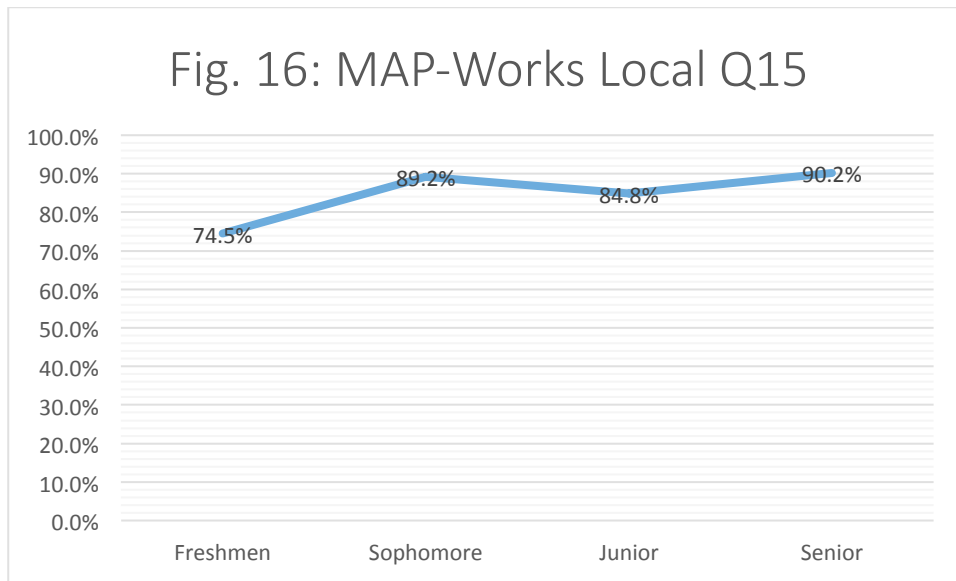
Answer: In order to find articles that address either of my search terms.



These results are consistent with what the HEDS survey found.

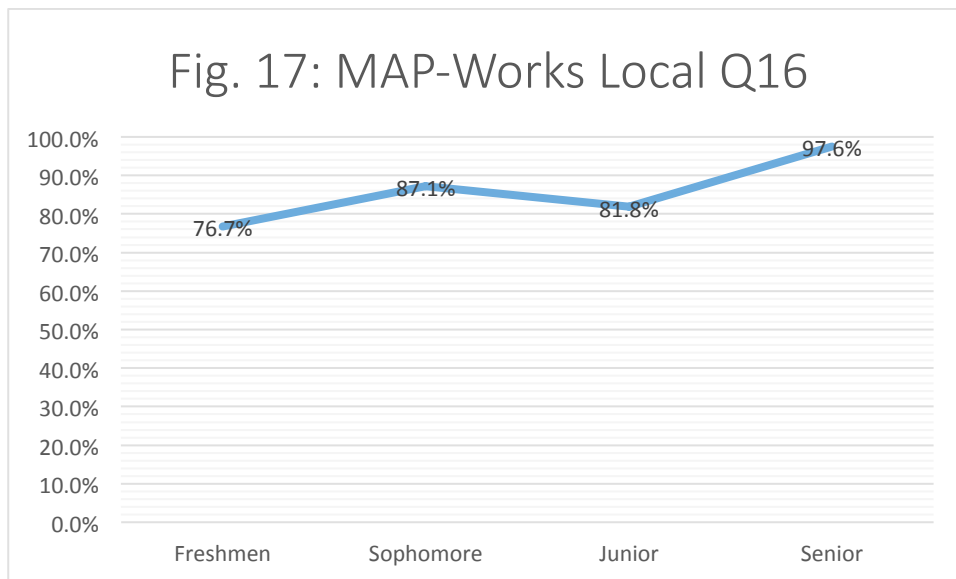
Question 15 - From the options below, which questions should you ask yourself when evaluating the quality of an article?

Answer: Who is the author? How old is the article? Does the author cite the sources used?



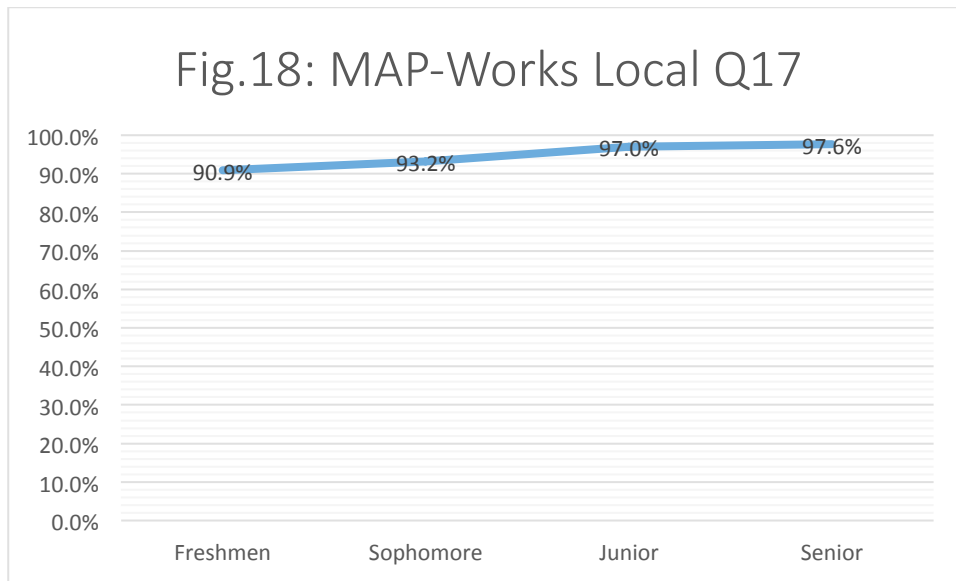
Question 16 - When writing a paper, if you take another person's idea and put it into your own words but don't directly quote it, do you still need to cite it?

Answer: Yes.



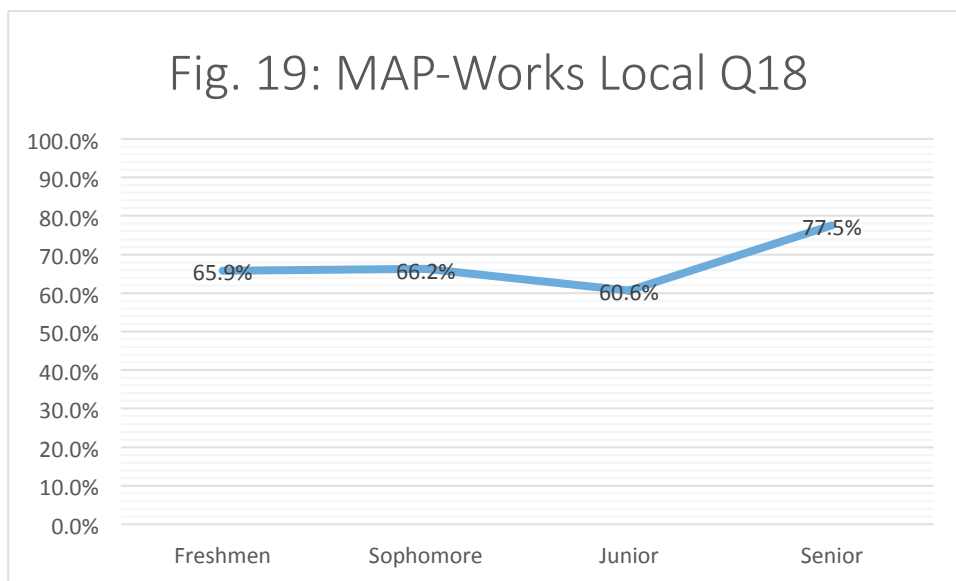
Question 17 - When you take another person's idea and summarize it in your own words, what it is called?

Answer: Paraphrasing.



Question 18 - You are writing a paper about the Civil War. Which of the following is NOT a primary source?

Answer: An article written in 2001 about the Civil War.

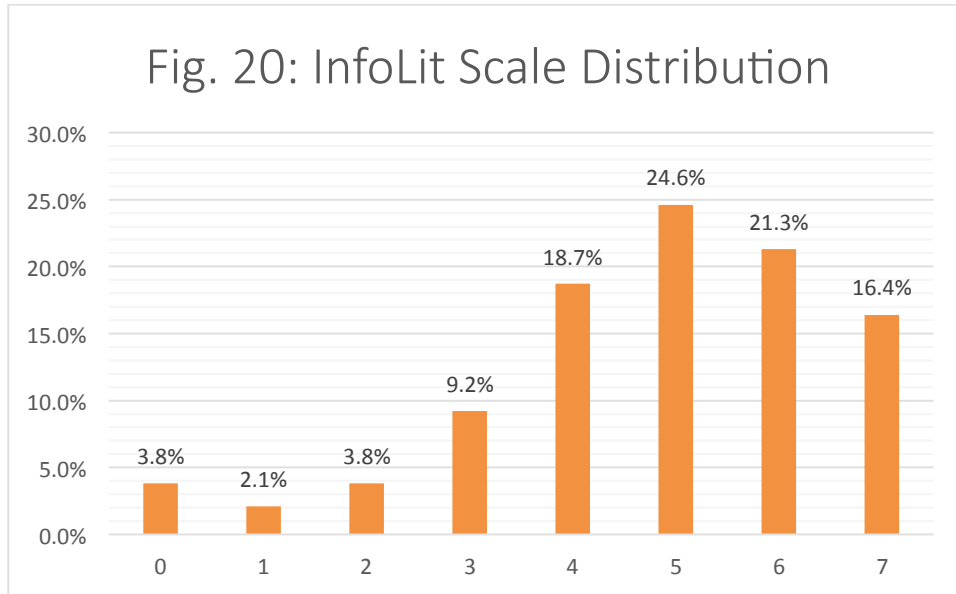


These results are consistent with what the HEDS survey found.

INFORMATION LITERACY SCALE

Analysis for freshmen

We asked nine questions that measure different aspects of information literacy - questions 10 through 18. Statistical analysis shows that questions 10 and 11 measure literacy on one dimension and questions 12 through 18 measure it on a different dimension. I used the second group to create an Information Literacy Scale (InfoLit Scale). The score represents how many questions were answered correctly. Scores can range from 0 to 7 with high scores indicating better performance.¹



The total number of people who answered all the InfoLit questions is 390, which represents 85.3% from the entire sample. If the scores are transformed into a grade, about 37.7% of the students received a score of 4 or lower and did not pass the “test.” Table 1, below, provides more detail on the distribution of InfoLit scores.

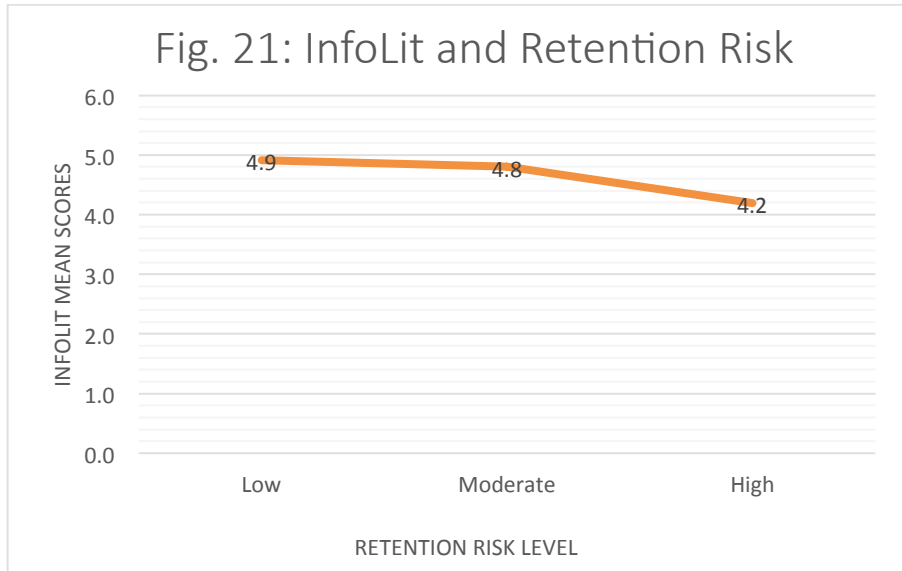
Table 1: InfoLit Scale

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	0	15	3.3	3.8	3.8
	1	8	1.8	2.1	5.9
	2	15	3.3	3.8	9.7
	3	36	7.9	9.2	19.0
	4	73	16.0	18.7	37.7
	5	96	21.0	24.6	62.3
	6	83	18.2	21.3	83.6
	7	64	14.0	16.4	100.0
	Total	390	85.3	100.0	
Missing		67	14.7		

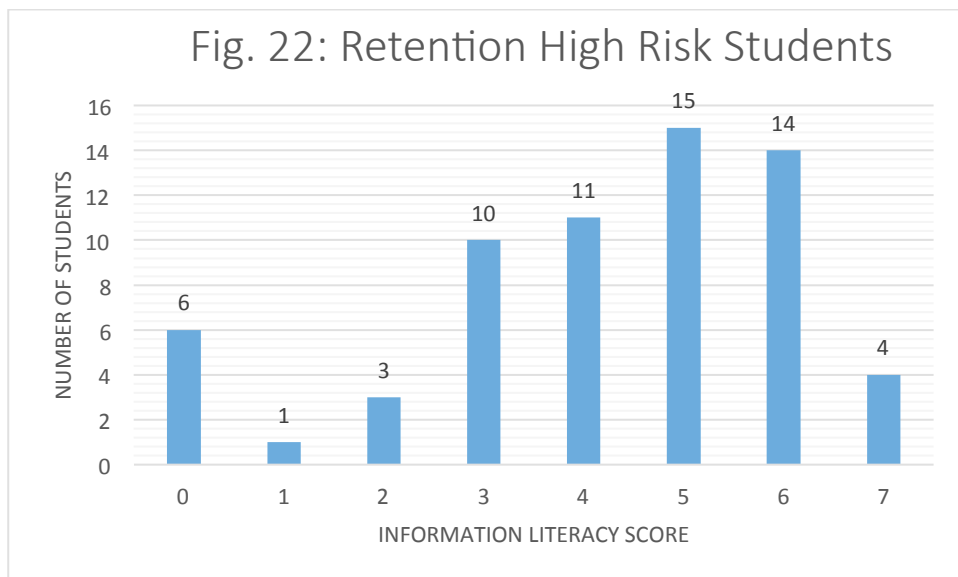
Total 457 100.0

IL and RETENTION RISK

Freshmen considered at a Low Retention Risk level performed slightly better, on average, than freshmen considered at a High Risk level. The difference between the mean score for the High Risk group (4.2) and that for the Low Risk group (4.9) is statistically significant, but rather small.²

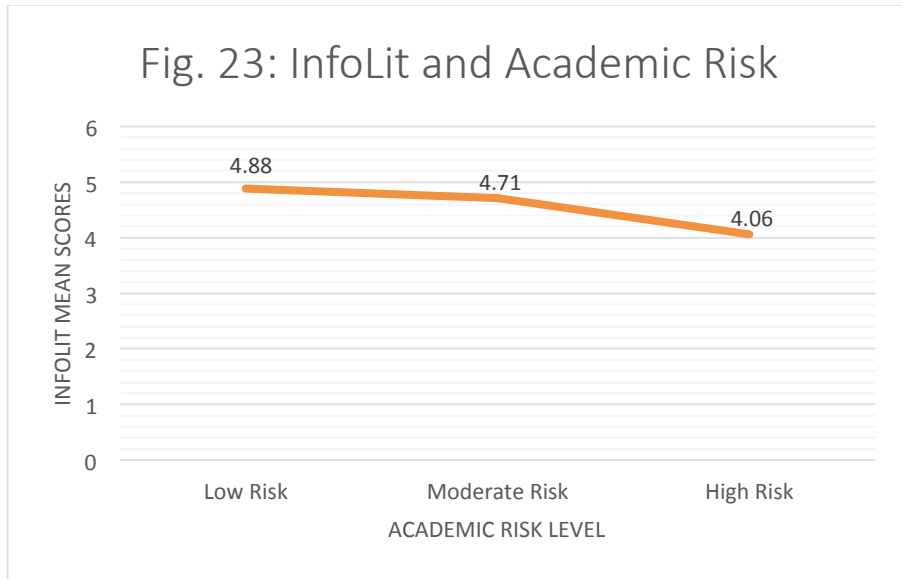


The fact that students in the High Retention Risk group have a lower InfoLit mean score does not entail that they all perform poorly, as evidenced by the graph below.

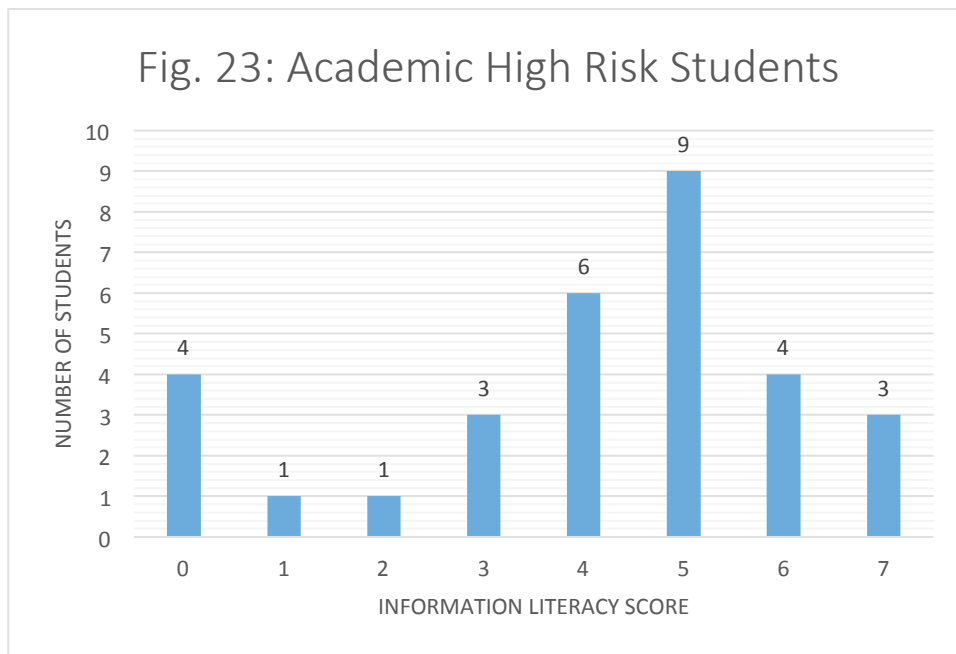


IL and ACADEMIC RISK

Freshmen considered at a Low Academic Risk level performed slightly better, on average, than freshmen considered at a High Risk level. The difference between the mean score for the High Risk group (4.06) and that for the Low Risk group (4.88) is statistically significant, but rather small.³



The fact that students in the High Academic Risk group have a lower InfoLit mean score does not entail that they all perform poorly, as evidenced by the graph below.



MAP-Works QUESTIONS RELEVANT TO LIBRARY SERVICES

These questions might be relevant to us in terms of the kind of services we can provide to students at risk. The tables below are just to familiarize yourself with the target questions.

To what degree you want to come back to this institution for the:

	1	2	3	4	5	6	7	99
Q004: Spring Term	1.2%	0.5%	0.5%	1.9%	3.8%	6.8%	84.7%	0.7%
Q005: Next Academic Year	8.2%	3.6%	2.9%	8.4%	4.8%	13.2%	56.1%	2.9%

D027: Of those (the courses you are taking), how many courses you are struggling in?

Courses	0	1	2	3	4	5	6
	45.5%	28.8%	21.0%	3.8%	0.2%	0.5%	0.2%

To what degree are you the kind of person who:

	1	2	3	4	5	6	7	99
Q052: Communicates with instructors outside of class	2.6%	6.2%	9.1%	23.4%	20.5%	18.6%	19.3%	0.2%
Q053: Works on large projects well in advance of the due date		2.1%	3.8%	15.0%	25.7%	23.6%	29.0%	0.7%
Q054: Studies in a place where you can avoid distractions	1.9%	1.0%	2.4%	17.7%	17.9%	31.3%	27.9%	

Thinking about your role as a college student, to what degree do you know:

Q057: What is expected of you in your classes to be successful	0.2%	0.7%	0.2%	7.5%	18.3%	37.6%	35.2%	0.2%
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Able to study in your room/hall

Q082: on-campus resident	0.2%	0.7%	0.2%	7.5%	18.3%	37.6%	35.2%	0.2%
Q089: off-campus resident	0.7%	0.7%	2.8%	16.1%	9.8%	28.0%	40.6%	1.4%

D093: Is there a convenient place on campus for you to relax between classes?

place	Yes	No
	135	9

How many times have you communicated with your parents/guardians within the past seven days?

times	none	1-5	6-10	11-15	16-20	21-25	>25
D104	2.2%	42.4%	24.4%	12.9%	6.6%	3.3%	8.1%

RETENTION HIGH RISK FRESHMEN

Retention High Risk freshmen (Red and Red2) tend to...

- be less determined to return to this institution in the Spring term (Q004) or next academic year (Q005)
- struggle in more courses (D027)
- study more often in places where they cannot avoid distractions (Q054)
- understand much less what is expected from them in their classes (Q057)
- be less able to study in their own room/hall, if living off-campus (Q089)
- have more fathers with 'high school diploma or less,' and less fathers with 'graduate or professional degree'
- be more often student athletes

They have similar patterns with the rest of the students in other respects (Q052, Q053, Q082, D093, D104, gender, mother's education, student residence, number of dependents, student military)⁴.

Information Literacy correlates with:

- Number of courses the student is struggling with (D027)⁵

Endnotes

¹ Factor analysis revealed the presence of two components with initial Eigenvalues greater than 1.

² Procedure used was one-way between-groups ANOVA with post-hoc tests. Levene test is not significant, assumption of homogeneity of variances is not violated. The analysis of variance showed that the effect of Risk Level was significant, $F(2,387) = 4.62$, $p = .01$. Post hoc analysis using Tukey indicated that the average number of errors was significantly lower in the High Risk condition ($M = 4.19$, $SD = 1.92$) than in the Low Risk condition ($M = 4.91$, $SD = 1.7$), $p = .007$. There were no statistically significant differences between the Moderate Risk condition and the other two conditions. The effect size is rather small, $\eta^2 = .02$.

³ Procedure used was one-way between-groups ANOVA with post-hoc tests. Levene test is not significant, assumption of homogeneity of variances is not violated. The analysis of variance showed that the effect of Risk Level was significant, $F(2,387) = 3.178$, $p = .05$. Post hoc analysis using Tukey indicated that the average number of errors was significantly lower in the High Risk condition ($M = 4.06$, $SD = 2.1$) than in the Low Risk condition ($M = 4.88$, $SD = 1.72$), $p = .007$. There were no statistically significant differences between the Moderate Risk condition and the other two conditions. The effect size is rather small, $\eta^2 = .016$.

⁴ A series of Spearman's rank-order correlations were run to determine the relationship between Risk Level and the target questions. Statistically significant correlations were found with the following variables: Q004 $r_s = -.138$, $p = .006$; Q005 $r_s = -.398$, $p = .000$; D027 $r_s = .166$, $p = .001$; Q054 $r_s = -.117$, $p = .016$; Q057 $r_s = -.1$, $p = .042$.

⁵ Spearman's rank-order correlation was found statistically significant, $r_s = -.14$, $p = .006$.