

Preparedness for Higher Education among Grinnell High School Graduates

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EXECUTIVE SUMMARY

The goal of Grinnell High School's education system is to prepare its students for higher education. Recently the administrators of Grinnell High School have been interested in how successful their students are at the college level. Previous communications with the parents of graduates revealed little information regarding areas of academic success and difficulties along with student perceptions of their level of preparedness for college coursework. This current study aims to gain the perspectives and recommendations for improving GHS's education program from graduates who are currently attending college. Our main question for this project was: how well prepared do recent graduates of GHS find themselves for academic success in college?

In order to gather the perspectives and recommendations of graduates we used a variety of methodologies. These included online surveys, phone interviews, and discourse with a key informant. The surveys contained 20 both quantitative and qualitative questions and the interviews were also structured around these questions. A total of 68 students responded to the survey and 5 phone interviews were conducted. Conversations with our key informant provided background information and insight about the administration's perspectives on areas in the education system needing improvement.

The results of our evaluation indicate that while graduates in general feel sufficiently prepared for higher education, there are a variety of areas upon which the school can improve. Students identified study habits, writing skills, and math as areas in which they feel least prepared. Similarly, students provided suggestions for improvement also in these areas. They also indicated issues in critical reading skills and student-teacher relations. The perspective of the administration offered by our key informant highlighted math, writing, reading, and science as subjects the school could improve upon. Some of these subjects align with responses from

graduates as areas for concern, but others do not. There was a disconnect between the school and students on the subjects of study habits and student-teacher relations in particular.

Based on the results, students perspectives, and our key informant's insights, we have provided Grinnell High School with a few recommendations. Study habits could be improved through more student independence fostered by college-style syllabi and enrollment in challenging AP courses that require intensive reading and writing. We also recommended a increased focus on enhancing writing skills and knowledge in citation styles. Writing workshops and a greater number of assigned research papers across disciplines would provide practice for writing in various styles and citing research materials.

INTRODUCTION

Grinnell-Newburg School District is composed of grades kindergarten through twelfth. Grinnell High School (GHS) serves as the secondary institution for the school district. Teachers, faculty, and staff work together to provide a quality education and learning experience for the students of GHS. This type of education is illustrated in GHS's mission statement: “the Grinnell-Newburg School District, together with parents, families, and community, will provide a challenging educational program which prepares all students to be life-long, learners and productive, contributing, caring citizens” (Grinnell High School Handbook).

In the past GHS's education program has seemed to fulfill its mission statement. Many of the students in this program have matriculated to a variety of higher education institutions. The success of these students in these higher institutions has contributed to the development of a better community for the city of Grinnell. Two years ago, in 2010, an interest in evaluating the postsecondary education preparedness of GHS students developed among the administration (particularly Principal Seney). A significant aspect in fulfilling GHS's mission is the successful

preparation of its students for postsecondary education. Lacking significant post-matriculation information on its graduates, GHS became interested in how well students performed in postsecondary schools.

An assessment of recent GHS graduate successes and struggles in their postsecondary coursework will offer information important in tailoring GHS to best prepare its students for postsecondary education. With a list of GHS graduates compiled from 2006 onwards, the administration contacted the parents of GHS graduates to inquire about their child's academic success in college. While parents were able to comment on the post-secondary attendance status of their graduate, they were unable to give more specific information about the graduate's success in particular academic skills.

This project aims to evaluate the academic preparedness of GHS graduates in their postsecondary education. In our evaluation we will pay particular attention to the academic successes and struggles of GHS graduates in their postsecondary education. We will also provide GHS with concrete recommendations and suggestions from both GHS graduates and our own analysis for ways in which GHS could better prepare students for postsecondary coursework.

Through surveys and interviews with graduates from GHS we hope to gain insight into the GHS education system. The important questions that our evaluation intends to answer are:

1. What do graduates feel is most academically difficult in their higher education?
2. Are the students successful at their intended college?
3. Did they stay at their intended higher education institution?
4. Did the students feel prepared for their intended higher education?
5. What recommendations do the graduates have for GHS in order to better prepare their students for successful higher education careers?

EVALUATION METHODS

Data Collection Methods

In collecting data for this project we used a combination of online surveys, interviews, and conversations with a key informant. The online surveys allowed for us to gather a large amount of data from graduates of various backgrounds and college experiences. With the online survey we were able to contact graduates who attended colleges from across the nation. Our survey contained twenty questions allowing for both qualitative and quantitative answers. The various questions were formatted in a mixture of free response, multiple choice, and Likert scales (see appendix A). We developed the survey using Grinnell College's online survey generator, which allowed for responses to be saved separately from the respondents' name and contact information, thereby allowing complete anonymity. Stephanie Peterson, who is a licensed administrator of this program, aided us in designing the survey, creating the online link, and retrieving the responses. The expected completion time for the survey was five to ten minutes and the survey link was active from November 19th to December 6th.

Phone interviews with graduates supplemented the online surveys by providing more in-depth responses. These interviews also expanded upon issues raised in the surveys. Of the 20 participants selected for phone interviews five were completed. The interviews were based on the questions used in the online survey. During the interviews we used these questions to prompt the interviewee for more expansive answers. The average length of each interview was approximately ten to fifteen minutes and we conducted them interviews from November 19th to December 6th.

Conversations with a key informant offered us relevant insight from the perspective of Grinnell High School. The key informant also provided us with the contact information of the

graduates, background information on what the school has previously done in this area of research, and the school's concerns and preconceived notions of areas needing improvement. We met with our key informant multiple times between September 13th and December 12th.

All participants signed or agreed to a statement of project procedures and confidentiality.

Respondent Population and Sampling Procedures

Our research population consisted of GHS graduates from the classes of 2010 and 2011 that intended to matriculate to a postsecondary institution. These students attended a variety of institutions ranging from two-year community colleges and vocational schools to four-year state universities and liberal arts colleges.

To obtain our sample from the respondent population we used a combination of random sampling and convenience sampling. We used random sampling for the semi-structured phone interviews and convenience sampling for the online surveys. For the random sampling, we used Microsoft Excel to create a randomized list of graduates from 2010 and 2011. We then used a random number generator from www.random.org to create a sample interview population of twenty graduates. For the convenience sampling we sent the online survey through Facebook messages and email to all of the graduates for whom we had contact information (212 total graduates).

Data Processing and Analysis

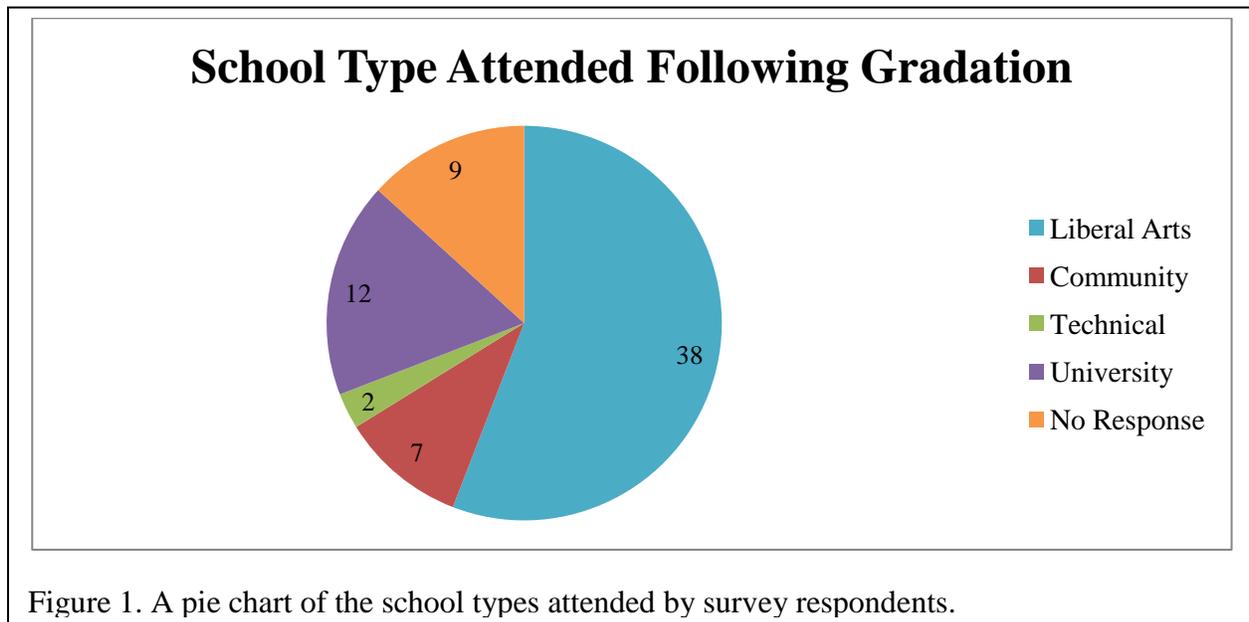
After collecting all of the data we compiled it into a data analysis program called NVivo. NVivo allowed us to code the responses from the surveys and interviews into overarching themes. These themes were later used to produce visual and quantitative models of the respondents' opinions. We also used Microsoft excel to make graphs that represent the demographics of our population.

Data Limitations

We found it difficult to find a good survey generator that could support a large number of questions and responses while maintaining the anonymity of the participants. After contacting multiple departments throughout the college we were able to get in touch with Stephanie Peterson who agreed to help us with our project. In addition, some respondents did not provide reasoning for their answers in the open-ended questions of the survey. However, with the phone interviews we were able to supplement the survey responses we did receive. Having only one key informant may have provided us with a biased perspective on the strengths and weaknesses of GHS's education program, but we feel that this key informant was the most informed individual available.

RESULTS

Respondent Demographics



We received a total of 68 survey responses from graduates deriving from a variety of backgrounds. The majority of respondents matriculated to Liberal Arts colleges following

graduation (38 respondents); whereas only 2 respondents attended technical institutions (see Figure 1). However this majority of Liberal Arts students is not representative of the entire student body population from GHS who go to college. Within our total sample population only 8 students (11%) transferred schools between graduation and the time at which this survey took place. School transfer combinations varied, but a trend within the data of transferring from a higher caliber to a lower caliber institution was evident (see Table 1). Several respondents did not provide reasoning for transferring, but of those who did, size of school (desire for smaller or larger school) or major/program change was given as the rationale. None of the transfer students mentioned academics as a factor in their decision to transfer.

| Type of Transfer | |
|----------------------------|--------------------|
| School Type | Number of Students |
| University to University | 1 |
| Community to University | 2 |
| Liberal Arts to Community | 1 |
| Liberal Arts to University | 3 |
| University to Community | 1 |

Table 1. Number of students who transferred taken from both survey and interview responses.

Education and Biology/Chemistry were the most popular majors among survey respondents; combined these majors represent 26% of the population (see Figure 2 in Appendix B). Majors within the humanities, such as English and Philosophy, were not prominent within the sample population; science and social science divisions had 63 majors, while the humanities only had 13 (taking into consideration double majors, see Table 2). One interesting finding in the data was the lack of Spanish majors in the respondent population (there were three French and one German major). This range of respondents provided many positive and negative perceptions of GHS's ability to prepare its students for success in college.

Major of Respondents

| Major Division | Number of Respondents |
|----------------|-----------------------|
| Science | 32 |
| Social Science | 31 |
| Humanities | 13 |

Table 2. Majors of survey respondents categorized by general academic divisions.

Positive and Negative Perceptions of Preparedness

Results of the Likert scale indicated that respondents generally strongly agreed, agreed, or felt neutral about their preparedness for college (71%). Comparatively, disagree and strongly disagree responses were 29% (see Table 3 and Figure 3 in Appendix C). Looking at positive and negative free responses, students felt most prepared in study habits (25% of respondents), writing skills (25%), and science (21%). However, students also felt least prepared in study habits (68%), writing skills (47%), and math (22%). While students felt both well prepared and inadequately prepared in study habits and writing skills, many more respondents exhibited concern in these areas than confidence (see Figure 4 in Appendix D). One student stated, “My peers were shocked to hear that I had never written a formal research paper before college, and I feel like I could have used a more challenging writing class.”

A handful of teachers were mentioned by respondents as significantly influencing their preparedness for college. One student wrote, “English teachers like Durbin and Rudolph really helped with paper structure and grammar.” This statement was supported by other student comments, who also mentioned Mr. Rudolph specifically as a beneficial English instructor. Other teachers such as Mrs. Hanson and Mr. Crites were also mentioned a few times in survey responses and interviews.

Respondents' Suggestions

Likert Scale Responses

| Category | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|------------------------|----------------|-------|---------|----------|-------------------|
| Math | 9 | 20 | 16 | 12 | 10 |
| Science | 11 | 25 | 20 | 7 | 4 |
| Reading Skills | 18 | 21 | 13 | 15 | 1 |
| Writing Skills | 19 | 20 | 8 | 14 | 7 |
| Time Management Skills | 11 | 17 | 13 | 17 | 10 |
| Total | 68 | 103 | 70 | 65 | 32 |

Table 3. Likert scale responses from survey on feelings of preparedness in certain academically relevant categories.

The top three suggestions from respondents for increasing college preparedness at GHS include improving study habits, better writing instruction, and providing more AP and college level classes (see Figure 5 in Appendix E). The free response questions and interviews provided specific recommendations in implementing these suggestions. Several students noted the use of syllabi in classes to foster student independence and stricter adherence to deadlines. One student wrote, “Many professors put everything you need to know in a syllabus. Where in high school I looked at it the first day of class and that was it.”

With respect to improving writing skills, students mentioned writing workshops directed by Mr. Rudolph and additional instruction about citation styles and methods for writing research papers across disciplines. Students also stated that AP and college courses were beneficial in preparing them for an increased workload and greater course challenge in college. They suggested that a greater availability of these courses across disciplines would prepare students better for postsecondary education.

Grinnell High School Perspective

Interviews with our key informant revealed areas where the education program is preparing students well and where it is lacking. The administration feels GHS provides

challenging upper level classes by offering AP courses and maintaining college connections with Grinnell College and Iowa Valley Community College. The connection between teachers and students is another area our key informant noted where GHS excels. Finally, high activity involvement of students (81%) results in well-rounded and experienced college applicants.

In contrast, our key informant indicated many areas where the education program is lacking. The foreign language programs insufficiently provided a variety, as Spanish is currently the only language offered. Writing and critical reading skills are also an important area in which the administrators feel they can improve upon. Greater emphasis on math and lab sciences would be beneficial for student preparedness. In addition, the school would like to offer a wider variety of AP courses and opportunities in which students can enroll.

DISCUSSION

Respondent Demographics

A majority of the survey respondents attended liberal arts colleges. This may be due to one researcher's (a GHS graduate) connection to friends from high school, many of whom also attend liberal arts colleges. Another possibility is that liberal arts students may place more value in higher education preparedness and would therefore be more likely to respond to the survey. These students may have also experienced more difficulties as a result of the demanding academic curriculum of liberal arts colleges. These aggravated difficulties could also have influenced their decision to contribute to the survey. As a result our conclusions and suggestions may be tailored towards individuals who plan on attending private four-year institutions. In contrast, we received few responses from graduates attending technical institutions; therefore our conclusions may not coincide with the aspirations of these students.

Science was the most popular major among survey respondents, whereas math and fine arts were the least popular. This reflects our findings of the top three subjects in which students felt most prepared for college, where science ranked third. We found a similar trend in math; math was one of the least popular majors among students and was one of the fields in which students felt least prepared. The Likert scales revealed that students generally agreed or were neutral about feeling prepared in both math and science.

A small percentage of our population consisted of transfer students. Although students did not mention academics as a factor in their decision to transfer, the trend of students transferring from higher caliber to lower caliber institutions suggests otherwise. However, without in-depth conversations with these individuals we cannot be certain that academics played a role in the decision to transfer.

Positive and Negative Perceptions of Preparedness

Graduates had mixed feelings about areas where they felt most and least prepared. The top three categories in which students felt most prepared were study habits, writing, and science. Coincidentally, the top three categories students felt least prepared in were also study habits, writing, and math. Although study habits and writing were both listed as areas of most and least preparedness, there was a discrepancy in the number of responses between the two. Of the respondents 68% did not feel prepared in their study habit skills versus the 25% that did. Similarly, a lack of preparedness in writing skills was mentioned by 47% of respondents compared to 25% who felt well prepared. Liberal arts institutions are writing intensive, in contrast to other institutions, which may be reflected in these results. A combination of larger amounts of work assigned at the college level and a greater independence requires students to

balance their time. The need for study skills are necessary for submitting assignments in on time, participating in classes, and performing well on tests.

The Likert scale responses suggest that students generally strongly agree, agree, or feel neutral about being prepared across subjects. This data does not correspond with the answers given in the free response questions. Respondents tended to be more positive and neutral on the Likert scales compared to more negative responses. This could be due people responding more positively when provided with multiple choice options. Individuals who felt strongly about their level of preparedness in a certain subject areas would have been more likely to mention it in a free response answer.

Respondents' Suggestions

The top three suggestions from the respondents (teaching study habits, improving writing skills, and increasing AP and college course offerings,) indicate areas where the high school should improve to better prepare students. Comparing these suggestions with our results from the positive and negative perceptions of students, these clearly indicate areas where students are struggling. For both suggestions and negative perceptions, study habits are these graduates' top concern. This large amount of concern could be due to, study habits encompassing a wide range of skill-sets important in college success, including test-taking skills, time-management skills, and professor relations. Writing skills are also a major concern for respondents. Improving writing skills is listed as second in the top three suggestions as well as the top three negative perspectives. At the college level (especially at Liberal Arts colleges, which make up a majority of our sample) there is a greater emphasis on writing across disciplines. Written assignments account for a large part of many courses at the college level and play a significant role in students' grades. The timing of when this survey was distributed could have increased the

number of comments about study habits and writing skills, as an end to the semester was approaching. AP and college courses, when taken during high school, might be desired because they allow students to practice those study and writing skills necessary for college.

Grinnell High School Perspective

According to our key informant, the high school's perspective on areas needing improvement and areas perceived as sufficient mostly aligned with the responses given by graduates, but for a few exceptions.

Both the school's perspective and student suggestions agree that writing and reading are areas that need increased attention. Agreement between these two could be due to previous research that GHS has gathered before this study and the results of standardized tests conducted at the high school. AP course offerings are also an area that both agree could be expanded. A reason for this could be that AP course credit is generally accepted at liberal arts institutions, so liberal arts students might see value in taking these challenging courses.

One area of disagreement between school administrators and student perspectives was in teacher student relationships. While our key informant sees student teacher relations as skillset in which GHS excels, graduates felt differently. Many graduates mentioned experiencing difficulty interacting with and seeking help from professors. This disjunction could be a result of teachers in high school putting forth greater effort to make connections with students, whereas in college the student-teacher relationship is more dependent on the students' efforts. Additionally, our informant did not raise study habits as an issue, whereas many respondents found it as a major problem. The administrators may be unaware of this area of concern, because studying in high school generally occurs outside of class under the structure of the home.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the areas of greatest concern from the students are study habits, writing skills, and math. These results are reflected in the fields in which students chose to major, with few math and English majors and many science majors. These results may be more critical of the skills suggested as needing improvement, because of a sample population skewed towards students from liberal arts colleges. Respondents provided suggestions that also reflect the areas of greatest concern with study habits and writing skills as the most prevalent. In addition, students also had suggestions in regards to AP and college course offerings, critical thinking and reading skills, teacher-students relations, and improved academic advice from counselors. The greatest disconnect between the high school and the students occurred in the areas of improved study habits and teacher student relations.

With the conclusions of our results, student suggestions, and previous research, we have developed a few recommendations for the high school education program. We recommend a greater emphasis on writing and citation styles across subjects and disciplines. This was a huge concern for many students. Since written assignments are a large part of student grades, this is essential for success in post-secondary education. Improved reading skills is another area that will help improve writing and cognitive thinking skills. Providing students with longer and more challenging readings, in addition to research-based writing will increase their preparedness for college coursework. Increased opportunity for cognitive thinking contributes greatly to college readiness according to previous studies performed by Rodrigues and Le (81).

Teacher-student relations need to incorporate more independence of the student. Pianta et al. (251) demonstrates how connections between teachers and students affect the level of engagement in coursework. Teachers who create a classroom environment that allows for

students to feel more autonomous and maintain a strong personal connection with teachers, supports student engagement and postsecondary academic success (Pianta et al. 253). One suggestion for increasing independence would be to incorporate college-style syllabi into the curriculum. College-style syllabi will foster more responsibility for students to complete assignments and improve their time management skills.

Time management also plays a role in study habits. Practicing study habit skills in classes will help students think more critically and better retain the information they are learning, while also performing better in class and on tests. Teaching students how to manage their time while studying will aid in efficiency and effectiveness of the time spent studying. Challenging AP and college level classes provide students opportunities to practice these time management and study habit skills. We suggest increased AP and college course availability, while also promoting counselors to take a more active role in encouraging enrollment in these challenging classes. An analysis by Hooker and Brand recommends policies that allow students access to college campuses, classes, and programs in order to build their "college knowledge" (84). According to one graduate, "The most important skill you can teach pre-college students is how to learn, be open minded, motivated, passionate, and to never settle for less."

REFERENCES

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APPENDICES

Appendix A: Survey and Interview Questions

1. What is the name of the school that you attended directly upon graduation from high school?
2. Are you still attending that school?
3. If no, why (dropped out, transferred, graduated, other)?
4. If you answered question three please give your reasoning. Were academics a factor? How so?
5. If you transferred schools, what is the name of the school you transferred to?
6. Do you intend to graduate from the school you're currently attending?
7. If not why and what are your future plans?
8. What is your major or intended major?
9. Did you/do you experience any academic difficulties in college?
10. What were you well prepared for?
11. What were you insufficiently prepared for?
12. What is the GPA scale for your school?
13. What is your cumulative GPA? Please choose one.
< 2 2.0-2.5 2.5-3.0 3.0-3.5 3.5- 4.0 if 6pt scale: 4.0<4.5 4.5<5.0 5.0<6
14. Do you find academics at your current institution more or less challenging than the academics at GHS?
15. Are there things that the high school could do in order to better prepare their students for success in higher education?
16. I felt well prepared in math for college (circle one): Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree
17. I felt well prepared in science for college (circle one): Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree
18. I felt well prepared in critical reading skills for college (circle one): Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree
19. I felt well prepared in writing skills for college (circle one): Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree
20. I felt well prepared in my time management skills for college (circle one): Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree

Appendix B: Detailed Majors of Survey Respondents

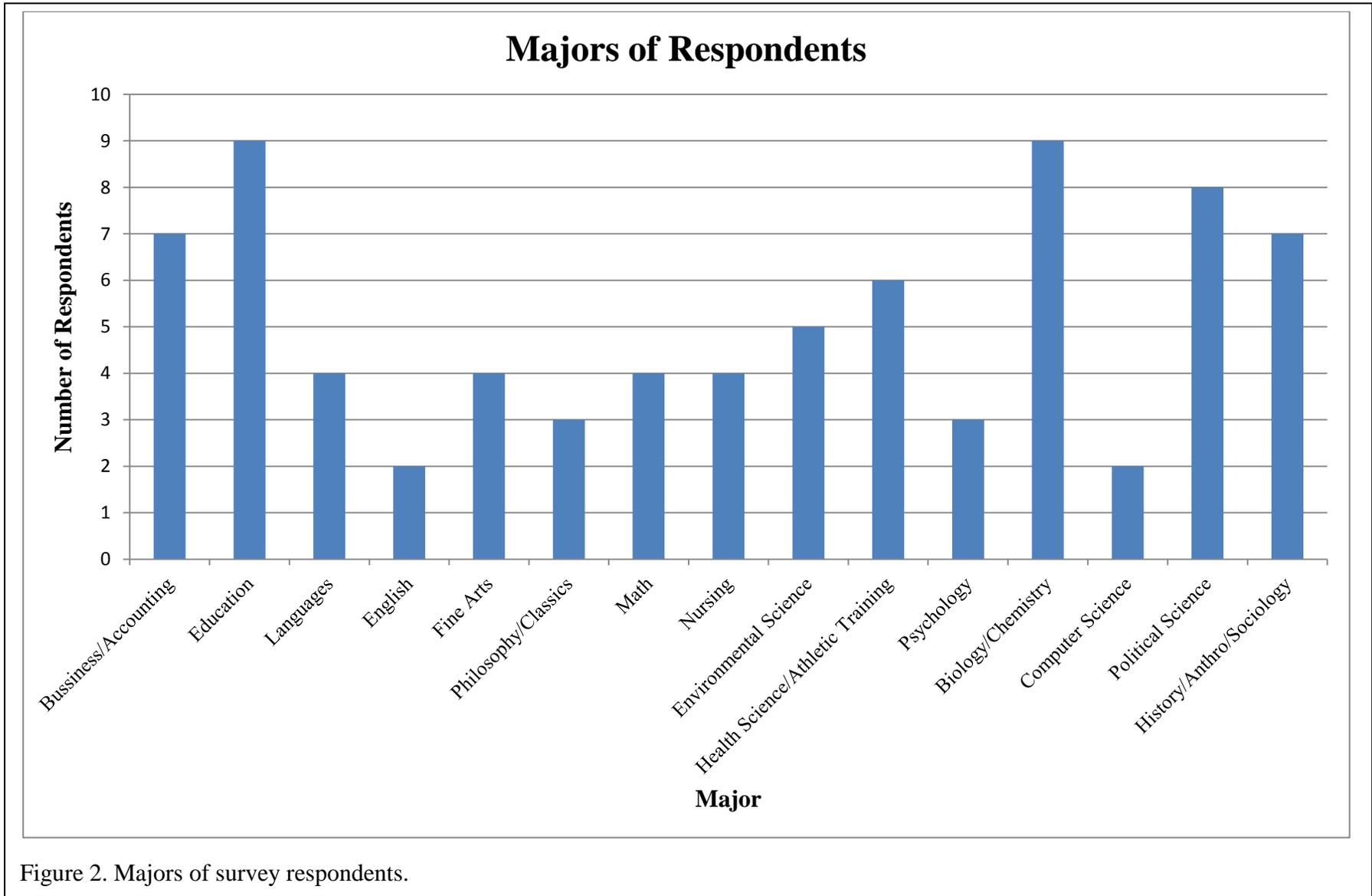


Figure 2. Majors of survey respondents.

Appendix C: Likert Scale Responses

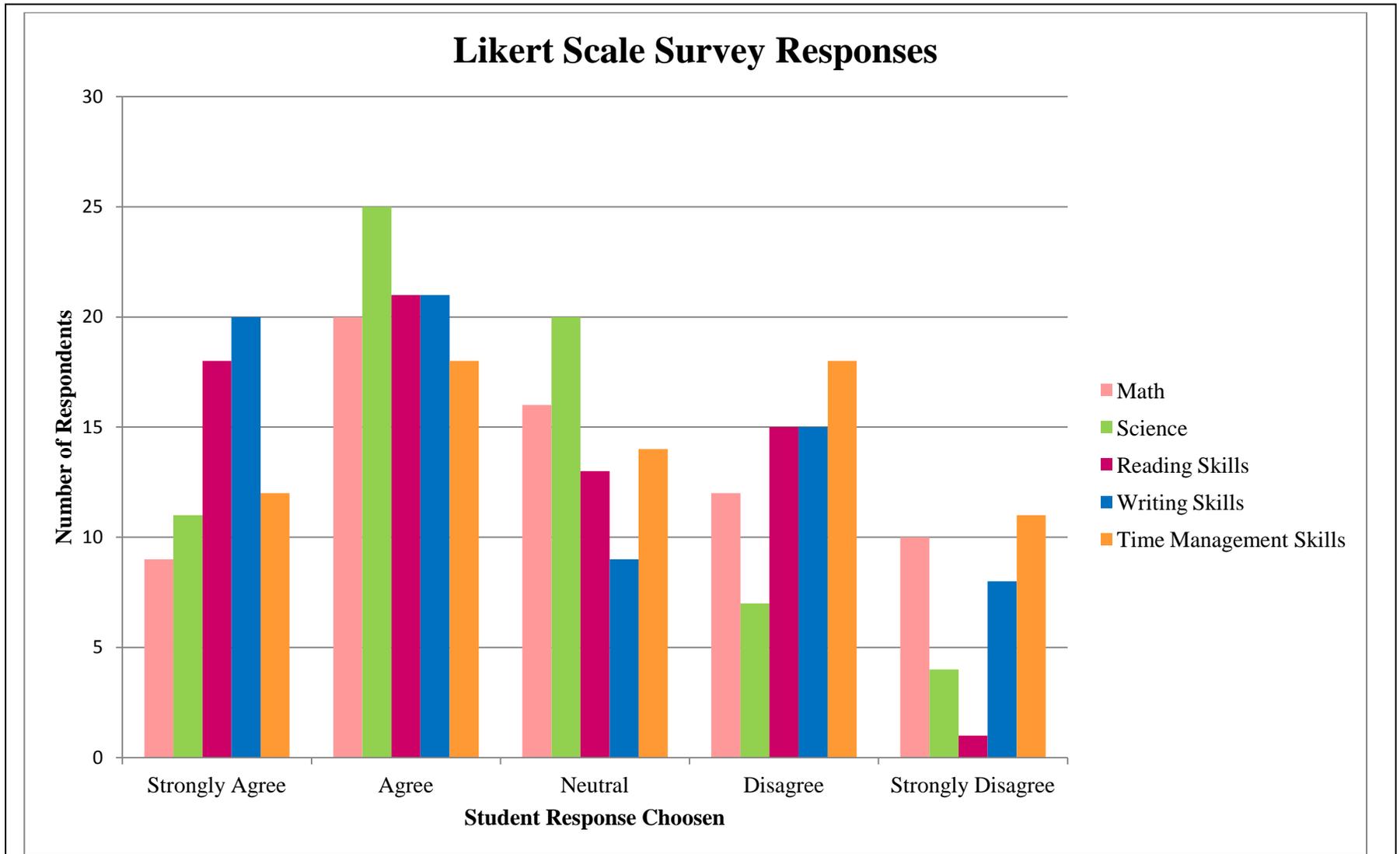
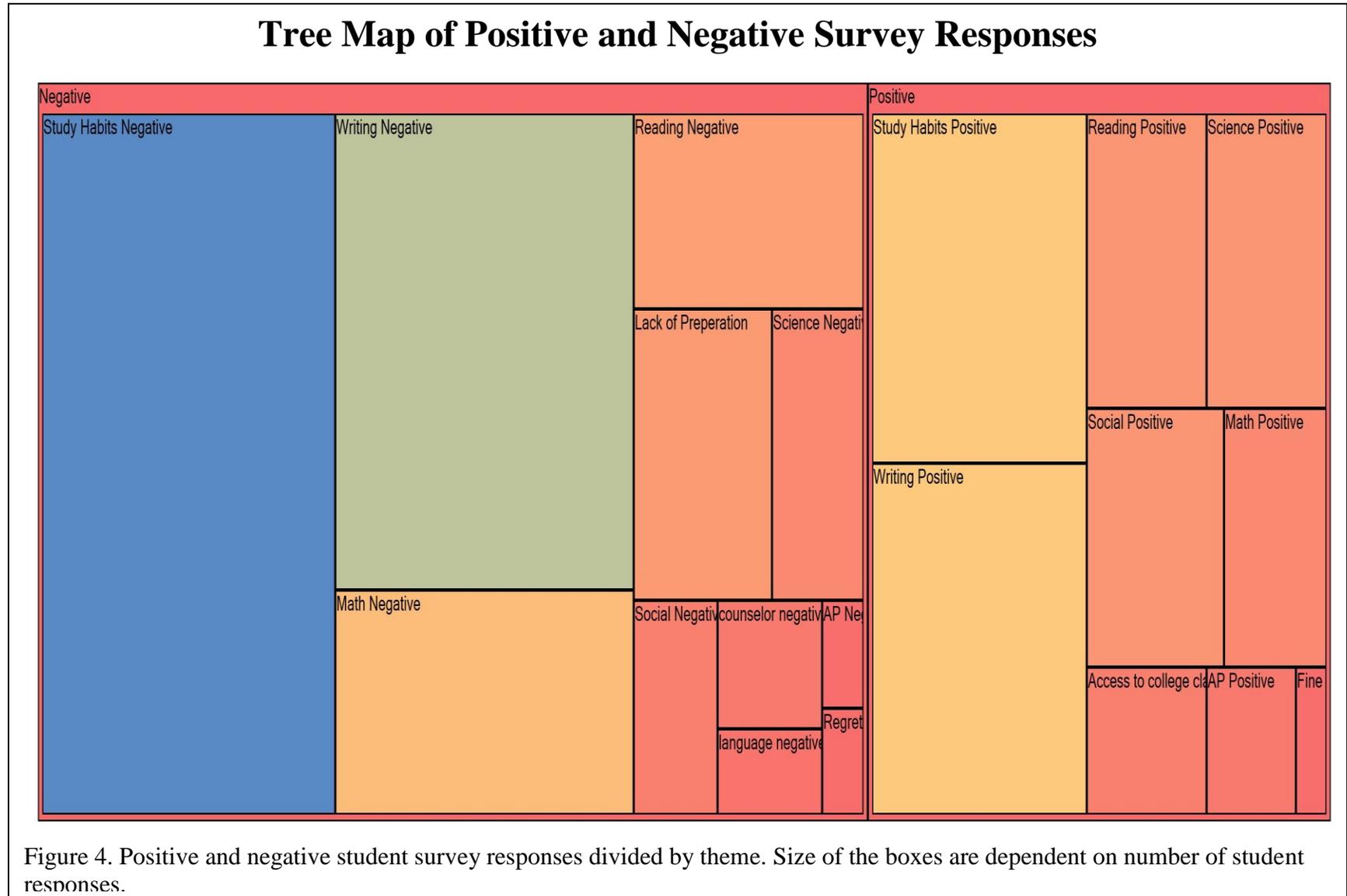


Figure 3. Student survey responses to feelings of preparedness for each subject, measured on a Likert scale.

Appendix D: Positive and Negative Responses from Survey



Appendix E: Suggestion from Survey Respondents

