



How Medical Students are Learning: Freshmen trends at Hamamatsu University School of Medicine

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How Medical Students are Learning: Freshmen trends at Hamamatsu University School of Medicine

医学生はどのように学ぶのか — 浜松医科大学の新入生動向

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English

Abstract

Purpose: This research study provides some novel insights into the study habits of freshmen Japanese medical university students after entering university, their general attitude to study (including English study), and their opinions/perceptions regarding their university studies. An integral element of this investigation is the on-going action research study undertaken by the author over the past fifteen years. Some of the data gathered in previous research investigations^{1,2,3)} has been used for comparison purposes to highlight trends.

Methods: Both qualitative and quantitative data were collected for this 2016 study. Two survey instruments were distributed to two classes of first year medical students at Hamamatsu University School of Medicine in Shizuoka Prefecture, Japan, in the second semester of 2016. A small sample of students was also interviewed for their comments to illuminate their responses to the surveys. These results were then compared to data obtained in previous studies.

Results: Although some similarities were noted, a general declining trend is evident in time spent on general study as well as a narrowing in focus of their study habits.

Conclusions: The main finding of this study is that an increasing number of Japanese freshman medical students may be purposefully underperforming, their justification grounded in the concept of “cost-performance”, when compared to students in years past. This trend does not augur well for the freshmen’s future achievement with the implementation of a revised curriculum and new grade point average system.

Key words: study habits, Japanese medical students, study time, revised medical curriculum

1. Introduction

The year 2016 marked the introduction of a revised medical curriculum at Hamamatsu University School of Medicine, in line with reforms also being carried out at most other medical universities in Japan, with the aim of meeting the requirements of the Global Minimum Essential Requirements (GMER) developed by the Core Committee of the *Institute for International Medical Education (IIME)*⁴⁾. This revised curriculum will strive to produce not merely local doctors for Japan but “global physicians” and as such will require current and future medical students, as well as the teaching staff, to take on significant additional burdens with regards to program organization, course content and effort. It is expected that the students who are successful in the medical university entrance examinations will have the very high standard of academic achievement, motivation and capabilities to successfully engage with and fulfill the university administration’s mission statement^{5,6)}. What have not been addressed are the differing expectations of the new students who have arrived at the university and are unprepared for the significant changes now occurring and the impact on them during their 6-year medical program.

Much of the author’s previous action research has centered on student behaviors in the classroom: in particular, student autonomy⁷⁾, learning strategies and skills^{1,2,3,6,8,9)}, collaborative learning¹⁰⁾ and problem-based learning¹¹⁾. In each case, the purpose was to develop a better understanding of student behaviors as well as raising their awareness of themselves as learners to help them become better medical practitioners in the future. The purpose of this paper was to investigate how the current intake of freshmen Japanese medical university students are managing their study time at university, their general study habits (for all subjects), and their perceptions regarding their university studies. The results of this investigation were then compared to data obtained in previous studies to determine any changes and trends.

2. Method

Subjects: Fifty-four freshmen students in Hamamatsu University School of Medicine participated in this survey. This sample of students was both purposive and convenient¹²⁾.

Procedure: At the start of each semester in 2016, a survey instrument called Learners Profile 2016 (Appendix 1) was administered to each freshman class, the purpose of which was to raise their awareness of their current study strategies and practices. At the end of the second semester, two classes of these students were administered the Learner Awareness Survey 2016 (Appendix 2a (English version); Appendix 2b (Japanese version)); this survey was based on survey forms created in 2003 and 2006. The 2016 survey included several new questions, comprising seven multiple-choice questions and two open-ended questions, and was translated into the Japanese language version for distribution to the target classes. Students were asked to reflect about the following issues: (1) how they perceived their new learning

environment, (2) how much time they spent on learning, and (3) their perceptions of their study efforts. A total of 54 survey forms were returned from the two classes in the second semester of 2016. A small, random selection of 7 students was also interviewed for their comments to illuminate their responses to the surveys.

3. Results

A total of 54 questionnaires were completed and examined in this study. The raw data given below in Table 1 is shown as percentages (rounded to one decimal place) in Tables 2 - 8 and in the charts in the Discussion section.

Table 1: Learner Awareness Survey 2016: Questionnaire and Responses

(responses in parentheses) N = 54	
1. Is study at university fun or difficult?	fun (8) difficult (46)
2. Is study at university different from how you thought it would be?	Yes (28) No (26)
3. If yes, what is different:	
<i>It's similar to high school, i.e. no medical courses in the first year and few/no choices.</i>	(8)
<i>It is more difficult than I imagined it would be.</i>	(8)
<i>Have a lot of freedom and not forced to study.</i>	(2)
<i>I don't feel like studying; I can "win" with short-cuts before tests.</i>	(2)
<i>It is difficult to push myself to study or do homework.</i>	(5)
<i>Some courses are a waste of time (e.g. experiments, just copying, "content is one pattern").</i>	(3)
4. What do you think about your own study progress?	
100 – 50% (regarded as "good")	(14) 49-0 % (regarded as "not good") (40)
5. How much time do you spend studying each day?	
less than 1 hour	(35) 1 to 2 hours (15) 3 to 4 hours (2) 5 hours plus (2)
6. Is this time enough?	Yes (16) No (38)
7. How much time do you think you need to study every day?	
less than 1 hour	(1) 1 to 2 hours (26) 3 to 4 hours (19) 5 hours plus (8)
8. How do you think you can improve the way you study?	
<i>Concentrate more on studying constantly (e.g. each day).</i>	(15)
<i>Make a specific study plan (e.g. time, place, environment, with others or not).</i>	(11)
<i>"Cost-performance": Only use enough effort needed to pass courses; effort not needed now as it will be needed later.</i>	(7)
<i>Increase study time.</i>	(7)
<i>Use study time more efficiently.</i>	(4)
<i>Stop using Smartphones.</i>	(2)
Nothing/ no response	(8)
9. Are you better or worse at studying English than other subjects?	
better at English	(26) better at other subjects (4) it is the same (24)

This raw data was then compared with data collected from freshmen medical students in the author's previous studies in 2003, 2006, and 2010^{1,2,3)} at the same university.

Table 2: Question 1. Is study at university fun or difficult?

Is study at university fun or difficult?	2016 %	2006 %
Fun	14.8	33.3
Difficult	85.2	66.7

Table 3: Question 2. Is study at university different from how you thought it would be?

Is study at university different from how you thought it would be?	2016 %	2006 %
Yes	51.9	82.4
No	48.1	17.6

Table 4: Question 4. What do you think about your own study progress?

What do you think about your own study progress?	2016 %	2006 %	2003 %
Good (100-50%)	25.9	47.8	80.0
Not good (49-0%)	74.1	47.0	20.0
No answer	0.0	5.2	0.0

Table 5: Question 5. How much time do you spend studying each day?

How much time do you spend studying each day?	2016 %	2010 %	2006 %	2003 %
less than 1 hour	64.8	63.9	56.9	57.8
1 to 2 hours	27.8	30.1	43.1	21.1
3 to 4 hours	3.7	2.1	0.0	6.6
5 hours plus	3.7	0.8	0.0	8.9
Only before a test	N.A.	3.1	N.A.	5.6

Table 6: Question 6. Is this enough time?

Is this time enough?	2016 %	2006 %
Yes	29.6	37.3
No	70.4	62.7

Table 7: Question 7. How much time do you think you need to study every day?

How much time do you think you need to study every day?	2016 %	2006 %
less than 1 hour	1.9	9.8
1 to 2 hours	48.1	45.1
3 to 4 hours	35.2	37.3
5 hours plus	14.8	5.9
No response	0.0	1.9

Table 8: Question 9. Are you better or worse at studying English than other subjects?

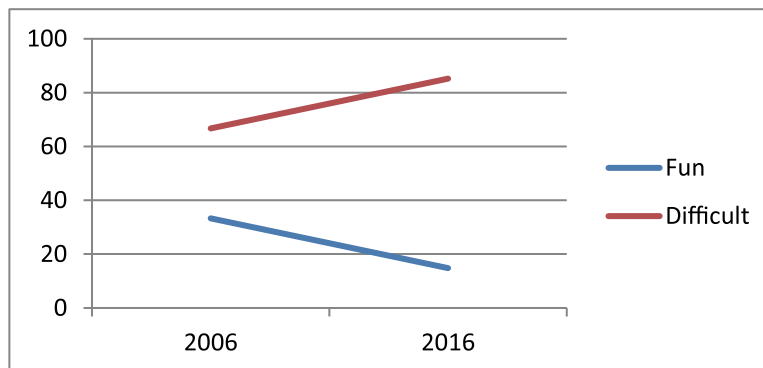
Are you better or worse at studying English than other subjects?	2016 %	2006 %
better at English	48.2	28.9
other subjects	7.4	25.8
the same	44.4	44.3
N.A.	0.0	1.0

4. Discussion

When compared with data collected in previous studies, some problematic trends in freshmen students' study performance are seen.

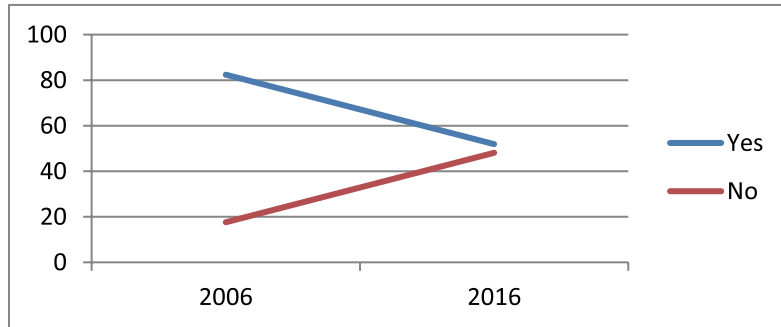
In Question 1, freshmen in 2016 reported finding their first year of study more difficult and less enjoyable (fun) than freshmen a decade earlier (difficult = 85.2% and 66.7% respectively). Chart 1 illustrates this trend. When interviewed, freshmen revealed that they had expected to have a great deal of free time after entering the university but the revised curriculum actually increased their in-class time and subsequent study load. More problematic was that freshmen reported that joining a university sports club (*bukatsu*) was far more demanding on their free time (*"Bukatsu is too strict."*) than they had originally expected and pressures from their seniors (*sempai*) made their participation less enjoyable. Illuminating comments as to why 85.2% of 2016 freshmen thought study at university is not fun included the following: *"I couldn't choose what I wanted to study"*, *"I expected more privacy (without having to study in a group as is expected in some classes)"*, *"I don't have time for myself to do as I wish"*, *"I can't sleep as much as I want to"*, *"Attending classes is more strict."*

Chart 1: Q1. Is study at university fun or difficult?



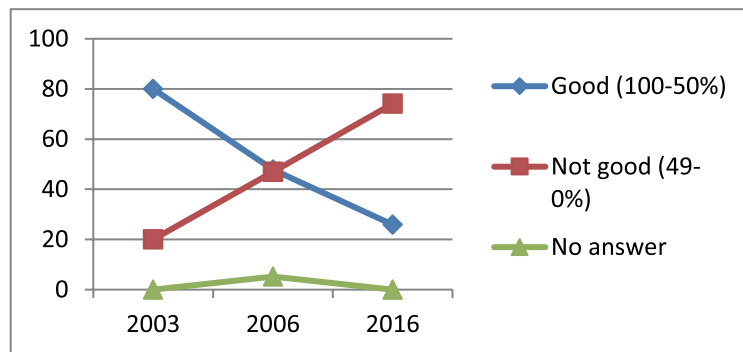
Question 2 also dealt with freshmen expectations of university. 48.1% of 2016 freshmen found the reality of being at university was not outside their general expectations, a significant increase from a decade before (17.6%). A general comment made was that being at university was *"much the same as being at high school."* Chart 2 shows this converging trend.

Chart 2: Q2. Is study at university different from how you thought it would be?



More potentially problematic is the growing freshman perception that making just enough effort to pass their courses is sufficient in the short term. The trend lines in Chart 3 (Question 4) suggest that 2016 freshmen are not putting in the same effort as previous year's freshmen (2016 = 25.7%; 2003 = 80.0%). Indeed, this impression has been noted by the author in his classes over the past several years. When freshmen were asked to comment, the term “コストパフォーマンス” or “コスパ” (“cost-performance”) was frequently cited; that is, as freshmen feel the increasing pressures of university life and study, they are compensating by making only the minimum effort necessary to simply pass their courses (scores in the range of 60-69% of total points receive a grade of ‘pass’) rather than expending more effort and time to achieve a better grade. This may become a particularly precarious practice as the revised curriculum now includes a revised grading system to accommodate the calculation of a Grade Point Average (GPA) each semester.

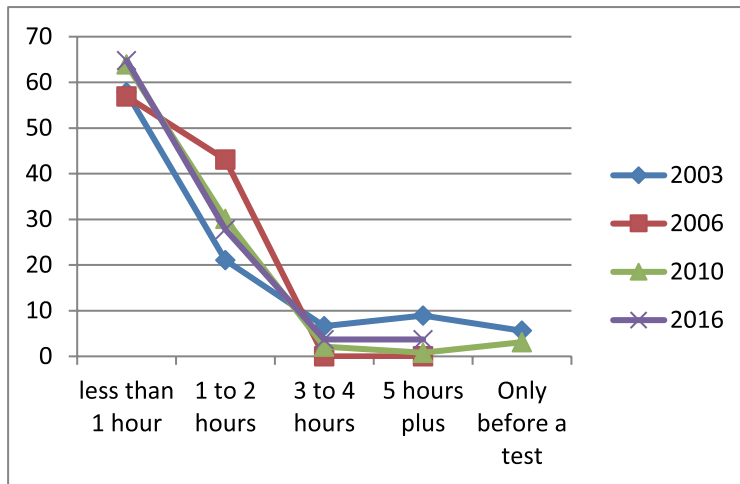
Chart 3: Q4. What do you think about your own study progress?



The overall responses to Question 5 revealed a generalized trend similar to previous years, shown in Chart 4. After entering university, 64.8% of 2016 freshmen responded they now study less than one hour a day which roughly corresponds to the 63.9% of 2010 freshmen but a noticeable increase over 2003 and

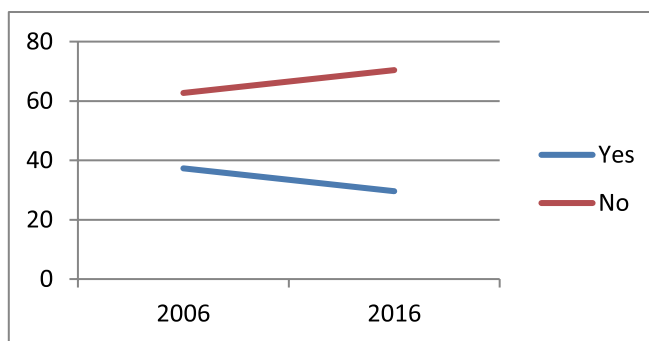
2006 (57.8% and 56.9% respectively). A total of 92.6% of 2016 freshmen studied less than two hours a day, trending downward when compared with freshmen responses in 2006 and 2010 of 100.0% and 94.0% respectively (Table 5).

Chart 4: Q5. How much time do you spend studying each day?



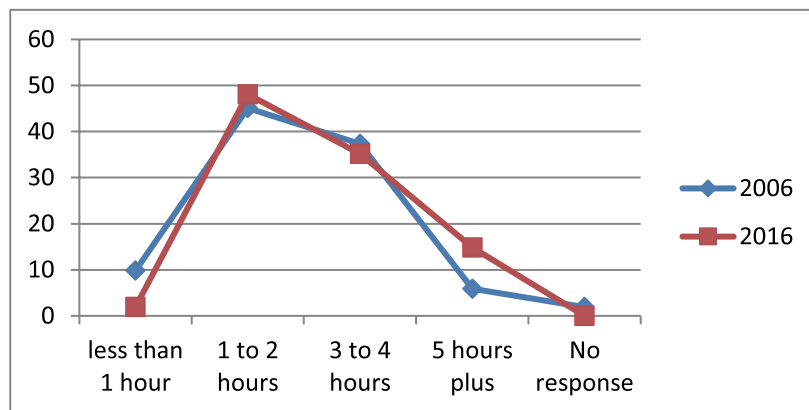
Asked if this was enough time spent at study, the responses of 70.4% of 2016 freshmen indicated they realized that the amount of time they were devoting to study is actually insufficient to adequately build their knowledge base; Chart 5 suggests this realization. Nevertheless, their “cost-performance” justification is used to normalize their actual underperformance. This is a trend the author has observed first-hand in his classes, e.g. the increasing proportion of freshmen who, as the semester progressed, failed to do assigned homework, or only submitted a portion of the homework, or merely copied from their classmate’s homework while the author was observing them, and not engaging in the opportunities for deeper learning on health related topics.

Chart 5: Q6. Is this time enough?



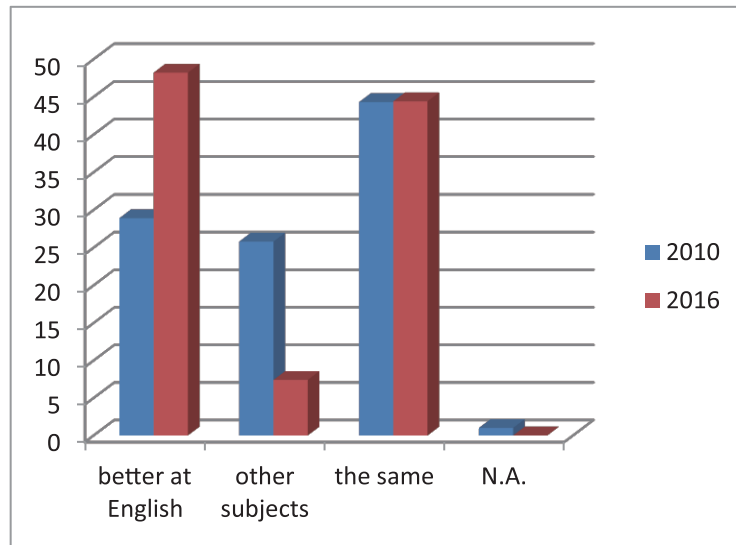
The overall responses to Question 7 again revealed a generalized trend similar to previous years, shown in Chart 6. Although invested in their “cost-performance” justification, freshmen do realize they are underperforming (supported by their responses to Q6) and could achieve more by simply decreasing the amount of time they spend on other social campus activities such as *bukatsu*. Indeed, peer pressures deriving from the entrenched *bukatsu* social hierarchy appear to exert a disproportionate influence over the actions of freshmen. Add to this an increasing trend of freshmen displaying a clear lack of pride in the work they submit to their teachers and the result is a noticeably fall in academic standards compared to previous years. To counter his trend, the author has endeavored to positively alter the balance of their perceived cost-performance both by increasing the cost of poor performance as well as rewarding better performance; results have so far been mixed at best.

Chart 6: Q7. How much time do you think you need to study every day?



An unusual finding of this survey is that in 2016 far more freshmen saw themselves as better at studying English than freshmen in the past. This is highly unusual in a medical university where the basic sciences, especially physics, have long been regarded as an indicator of intellectual potential and therefore suitability to medical studies. This finding certainly warrants further investigation at other medical universities to determine if this is an anomaly or an emerging trend. In addition, as shown in Chart 7, the same proportion of freshmen responded that there is no significant difference between them studying English and other subjects (2010 = 44.3%; 2016 = 44.4%); this suggests that the same learning strategies and approaches the author has observed freshmen using in their English classes are also used for their other classes.

Chart 7: Q9. Are you better at studying English than other subjects?



5. Pedagogical Implications

The direction of this study taken by the author was inspired by the work of David Nunan¹³⁾ who espoused the need for teachers to expand their understanding of the individually-differentiated nature of students' learning processes. Nunan theorized that mismatches often occur because students have different agendas and focal points of interest from other students, their teachers and the university administration. Indeed, the current and future intakes of freshmen may not see their future as a medical practitioner in the same ways as do policy-makers and university administrators. In addition, as suggested by the variety of surveys and editorial comments^{14,15)} in recent years concerning Japanese youth and their views on globalization/internationalization, many freshmen at medical universities may be as inward looking (described as *uchimuki*), adverse to taking risks, and less interested in engaging with the world outside Japan as their counterparts at other universities, especially as they see their primary future as local medical practitioners in Japan. Therefore, as medical education is already moving in a global direction, Japanese policy makers, university administrators and teachers must strive to ensure medical freshmen understand the reasoning driving revisions to Japanese medical curricula and the significant changes currently being implemented as well as the new challenges to be met if they are to graduate.

Now, after fifteen years teaching in Hamamatsu University School of Medicine and observing the changing nature of medical students as impacted by changes in their general educational experiences (e.g. the rise and subsequent demise of the policy of *yutori kyoiku* (relaxed education)), the author feels there is a pressing need to expanding this paradigm by pursuing proactive measures to positively influence freshmen students' expectations from the beginning of their study at the medical university.

Unfortunately, the teaching methods in many medical university programs remain the traditional passive, one-way, teacher-centered, cram-for-the-exam approach familiar to most students' in their previous educational experiences. Looking ahead, Hamamatsu University School of Medicine is now pursuing faculty development in Active Learning so teachers can expand their repertoire to engage students more in their learning and encourage greater interest in better performance. By doing so, it may be possible to find the right motivational buttons to push earlier in their course of medical study and encourage freshmen to make the necessary strategic investment in their studies to build a more successful future.

6. Conclusion

This paper investigated how the current intake of freshmen Japanese medical university students managed their study time in 2016, their general study habits, and their perceptions regarding their studies by focusing on their self-reported learning practices and opinions. The data collected was then compared with data from the author's previous studies. Although some similarities were noted, a general declining trend is evident in time spent on general study as well as a narrowing in focus of their study habits. The main finding of this study is that an increasing number of Japanese freshman medical students may be purposefully underperforming, their justification grounded in the concept of "cost-performance", when compared to students in years past.

This trend does not augur well for the freshmen's future achievement with the implementation of a revised curriculum and new grade point average system. However, as they progress through their study program and realize the positive impact of greater effort on their grade point average, many students will likely adapt their expectations to the realities, challenges and benefits of the revised medical curriculum. This is not to suggest that the university administration and the teaching faculty need do nothing about the current situation in the hope that freshmen will sooner or later catch-on and buck-up; rather, it behooves us to be pro-active and instill in freshmen a sense of renewed purpose after entering the university through learner-centered Active Learning as well as to constantly remind them of the direction they should be heading in if they wish to achieve their stated goal to be a medical practitioner in Japan but also to be ready to engage with the world.

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Appendix 1

Learner Profile 2016

Name:..... Student # Group #.....

1. How do you study? Write 6 ways you learn something:

- a..... b.....
- c..... d.....
- e..... f.....

List these in descending order of importance:

(most) 1..... 2..... 3..... 4..... 5..... 6..... (least)

2. When do you usually study?

- early morning class time only lunch time
- after class at school after dinner late night
- when I have free time just before a test

3. Where do you like to study? library study area
 in my room alone at a friend's house restaurant / coffee shop

4. How long do you usually study each day now?

- under 1 hour 1-2 hours 3-4 hours

5. Your comment:

.....
.....

Appendix 2a

(English version) Learner Awareness Survey 2016 developed by Greg O'Dowd

1. Is study at university fun or difficult? fun difficult

2. Is study at university different from how you thought it would be? Yes No

Q3, if yes, what is different

4. What do you think about your own study progress?

5. How much time do you spend studying each day?

() less than 1 hour () 1 to 2 hours () 3 to 4 hours () 5 hours plus

6. Is this time enough? YES NO

How much is enough?

7. How much time do you think you need to study every day?

() less than 1 hour () 1 to 2 hours () 3 to 4 hours () 5 hours plus

8. How do you think you can improve the way you study?

9. Are you better at studying English than other subjects?

() better at English () better at other subjects () it is the same

Appendix 2b

Learner Awareness Survey 2016

- Q1. 大学の勉強はどのように思いますか？ 楽しい・難しい
- Q2. 大学での勉強は入学前に想像していたものと違いますか？
はい・いいえ
- Q3. Q2 で「はい」と答えた人は、どのように違うと思いますか？
.....
.....
- Q4. 試験期間以外で、あなたはどのくらい勉強に力を入れてきたと思いますか？
100%.....80%.....60%.....50%.....40%.....20%.....10%.....0%
- Q5. 現在、一日にどれくらい勉強していますか？
() 1 時間以下 () 1 時間から 2 時間
() 3 時間から 4 時間 () 5 時間以上
- Q6. Q5 の回答は十分な勉強時間だと思いますか？ はい・いいえ
- Q7. 良い医師になるために、どれくらい勉強すればよいと思いますか？
() 1 時間以下 () 1 時間から 2 時間
() 3 時間から 4 時間 () 5 時間以上
- Q8. 勉強方法をどのように改善できると思いますか？
.....
.....
- Q9. 他の教科と比べると英語はよいですか、悪いですか。
() 英語の方が良い () 他の教科の方が良い () 同じくらいである