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## Ways to Enhance the Effectiveness of Homework for Primary and Secondary School Students

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<b>Article History</b>	<b>Abstract</b>
<p><b>Article Submission</b> 11 July 2022</p> <p><b>Revised Submission</b> 08 August 2022</p> <p><b>Article Accepted</b> 11 September 2022</p>	<p>Reducing the burden of primary and secondary school students is always an important issue in China's basic education, and how to realize the function of both the external functional and internal value objectives of homework in the context of "load-shedding" is the focus of current homework research. In this paper, 150 students from Huang gang Experimental Middle School were randomly selected to collect the data of the homework implementation questionnaire, using the SPSS22.0 data analysis tool, the significance of the four aspects of homework design, homework assignment, homework correction and homework feedback in the process of homework implementation in relation to the homework meaningfulness dimension was analyzed. There is a strong salience in the meaningfulness of homework (acquisition of basic knowledge, improvement of skills, cultivating learning literacy). Therefore, a variety of homework designs, quality and quantity of homework accompanied, two-way participatory correction and detailed feedback are the ways to enhance the meaningfulness of assignments.</p> <p><b>Keywords:</b> Load Reduction; Homework Implementation; Homework Meaning; Enhancing Validity; Significance of Homework</p>

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## Introduction

Reducing the schoolwork burden of primary and secondary school students has always been a topic of concern for the state, society, education and families, among which, excessive homework burden is a core issue that cannot be avoided. Since the 1980s, the Ministry of Education (MOE) has issued 11 special policies to reduce students' academic burden through policy guidance.

However, over the years, the results of reducing the burden have not been satisfactory, and the burden reduction seems to have fallen into the strange cycle of "heavy burden - promulgating policies to reduce the burden - relief- heavy burden - promulgating policies to reduce the burden again - relief again" (Zhang and Cheng, 2019). Influenced by the traditional view of homework and the utilitarian nature of our educational environment, efficiency-focused text-based homework is prevalent (Zhang, 2013), believing that students only need to do questions to achieve mastery of knowledge and skills (Lana et al, 2021). The uncontrolled amount of homework, good and bad are intermingled, and uniformed homework is becoming the most dreaded thing for students, and homework is alienated as the "culprit" that restricts students' healthy growth. It can cause disaffection and stress in both students and their parents. (Moè, A., Katz, I., Cohen, R., & Alesi, M. 2020). Students report less enjoyment, more anxiety, and above all more boredom with homework than during lessons (Goetz et al., 2012; Raccanello, Brondino, Moè, Stupnisky, & Lichtenfeld, 2019).

As some scholars say, homework is an essential part of teaching and learning activities and is closely related to students' growth. (Guo, Liu, & Zhao, 2006) A well-organised homework system can achieve both the external functional goals of teaching feedback and students' consolidation and application of knowledge, and the intrinsic value goals of enhancing students' self-education, developing their skills and developing their learning literacy (Jin & Meng, 2013). It also builds educational spiritual and cultural beliefs and develops a sense of life experience and social responsibility (Gao & Li, 2017). The negative affect and stress experienced during homework can impact negatively on homework effectiveness, leading students to put less effort into their assignments (Trautwein et al., 2009), disengage (Reeve & Tseng, 2011), and procrastinate (Katz, Eilat & Nevo, 2014), all of which can undermine the positive effects of homework. How to improve the effectiveness of homework in the context of reducing the burden has become an important activity in current education and teaching.

Therefore, this article is dedicated to the study of how to improve the effectiveness of homework, by analyzing the factors that affect the effectiveness of homework, and applying the right measures to reverse the misconceptions about the relationship between homework assignment and homework effectiveness, with a view to avoiding the negative effects of homework, striving to achieve the positive meaning of homework, and avoiding homework becoming a "stumbling block" for students' growth and to achieve the basic goal of students' knowledge and growth in life. Secondly, by digging deeper into the ways to enhance the effectiveness of homework, substantially optimizing the four links of homework design, assignment, correction and feedback in the process of homework implementation, changing the current situation of homework for primary and secondary school students in China which is out of control in terms of quantity, good and bad are intermingled, and uniformed homework, making homework more scientific, relevant and operable in the actual process of assignment, improving the quality of homework and thus reducing students' the "burden of schoolwork".

## Research Background

Homework is an important link between teaching and learning. (Zhang, 2013) It is a widely adopted practice aimed at fostering student achievement (Cooper et al., 2006; Dettmers et al., 2011), motivation (Bempechat, 2004) and self-regulated learning (Zimmerman & Kitsantas, 2005). It is generally accepted that student homework has the potential to extend the learning process commenced in the classroom by providing opportunities for practicing skills, increasing

learning-task involvement, as well as fostering self-discipline and responsibility (Epstein, 1988; Vicky C. Tam; Raymond M. C. Chan, 2016). Therefore, the assessment points for improving the effectiveness of homework include the following three aspects: a) Acquisition of basic knowledge , b)Improvement of competencies , and c) Cultivating learning literacy.

The process of homework implementation is specifically expressed in several steps of homework design, assignment, correction and feedback. In order to further enhance the effectiveness of homework on students' growth, digging deeper into the essence of the meaning behind the homework implementation process and the influence on homework effectiveness is analyzed from the above processes to optimize the homework implementation process in a targeted way while reducing students' coursework burden and achieving students' overall development.

## **Methodology**

### Survey design

The present study followed a quantitative research paradigm in collecting and analyzing the data. A questionnaire was designed to collect data on the current status of homework implementation, followed by a significance analysis with the three dimensions of assignment effectiveness to pinpoint the issues that contribute to ineffective homework and cause students to treat negatively. The study adopted a descriptive research design with a quantitative data analysis.

### Data collection tool

Based on the homework implementation process, A self-developed questionnaire was used for data collection. The questionnaire was designed in terms of two dimensions: the implementation and the meaning of the homework. The purpose of the first dimension was to understand the basic situation of the homework, and the second dimension was designed as a purposeful expression of the first. For the homework implementation dimension, questions 1-12 are included on the design or selection of homework, the amount and form of homework, the supervision of homework, the way they are marked and the effectiveness of feedback; for the homework meaning dimension, It consisted of 12 Likert scale items (i.e., Not helpful at all , Not helpful, Not sure , Helpful and Very helpful) , This includes the extent to which students have acquired the basic knowledge, improved their skills and developed their learning literacy in the course of the homework implementation .

### Sampling techniques

The questionnaires were distributed randomly in order to get a comprehensive picture of how students in different grades felt about their homework. so that the conclusions drawn from the study can be generalized without any bias. This technique facilitated the researchers to collect original data utilizing a probability or randomized sample from the students.

### Data analysis procedures

With the help of the author's one-month part-time experience in Huang gang Experimental Middle School in Hubei Province of China, 150 questionnaires were distributed and 142 questionnaires were collected, through careful examination of the questionnaire answers, 6 unqualified questionnaires were excluded and 136 valid questionnaires finally, Valid questionnaires exceeded 80% of the total questionnaire Therefore, the results of this questionnaire are valid. After the completion of the data collection, the Likert scale responses for part-II items were divided into three categories: Among them, questions 13-16 are quantitative options for a), questions 17-20 are quantitative options for b), and questions 21-24 are quantitative options for c).

A descriptive statistical analysis was run for 13-24 items of the questionnaire, using the Statistical Package of Social Sciences (SPSS 22.0). The data were then analyzed in two steps. In step one, the statistical data were analyzed through the use of descriptive statistics: standard deviations, frequency, and percentages. In step two, significance analysis was carried out using collected data on the current state of homework with quantitative data on the dimensions of

homework meaning .

Data analyses

Part-I Homework design

In Table 1 students' feelings about the design of homework, in question 2, "What do you think the teacher often assigns", about 63.2% of students chose A (simple and repetitive homework), 27.3% chose B (moderately selected homework), and 9.5% chose C (well-designed homework); in question 6, "Do you think the teacher designs or chooses homework in terms of their content and your extracurricular life", about 62.5% of students chose A (connected), 32.4% chose B (less connected), and 15.1% chose C (not connected); Question 8, "What type of homework do you prefer", 27.2% of students choose A (written homework for consolidating knowledge), 33.8% of students chose B (divergent thinking type homework), and 39.0% of students chose C (practical homework for collaboration and interaction among classmates).

Table 1. Students' feelings about the design of homework

Options	questions 2(frequency + percentage)		Questions 6(percentage)	questions 8(percentage)	questions 4(percentage)
Item A	86	63.2%	62.5%	27.2%	64.6%
Item B	37	27.3%	32.4%	33.8%	12.7%
Item C	13	9.5%	15.1%	39.0%	22.7%

From the above three questions, it can be seen that most students think that teachers focus on single textbook knowledge in the design and selection of homework, and do not go more to connect with life outside the classroom, and also express their desire for divergent thinking type homework and practical type homework. In China's current primary and secondary school homework environment, teacher-led homework design and student-completed homework are the common behaviors in current homework. Combined with the data of question 4 of the student questionnaire, "In general, the form of your daily home work is that 64.6% of students choose written homework and 22.7% choose both written and practical homework", we can see that in the current Huang gang Experimental Middle School the homework design is still dominated by text-based written homework, and some collaborative activities are rarely designed.

As shown in Table 2, the F-values of the degree of homework design variable and the three dimensions of a), b), and c) are 5.772, 6.633, and 3.498, respectively, and the P-values sig are 0.003, 0.001, and 0.031, respectively, all of which were less than 0.05, which indicates that the effect of the degree of homework design in all three dimensions is very significant, and the mean value of the elaborate homework design in all three dimensions is above 4, which indicates that the well-designed homework have the highest recognition in these three dimensions.

Table 2. Analysis of variance for three dimensions of homework design degree and homework meaning

	Elaborate design of homework		Moderate selection of homework		homework designed to be simple and repetitive		F	sig
	Mean	Std.Deviation	Mean	Std.Deviation	Mean	Std.Deviation		
a)	4.04	0.839	3.41	1.183	3.51	1.2	5.772	0.003
b)	4.12	0.808	3.45	1.180	3.45	1.19	6.633	0.001
c)	4.01	0.792	3.51	1.175	3.63	1.171	3.498	0.031

Part-II Homework assignment

In Table 3, Question 1, "You feel that the amount of homework assigned by the teacher is for you", about 61.8% of students chose A (too much work, difficult to finish), 25.0% chose B

(moderate work, acceptable), and 13.2% chose C (small work, easy to finish); Question 3, "Does your teacher assign graded homework according to students' different abilities, interests and personality characteristics", about 14.0% of students chose A (often), 27.9% chose B (sometimes), and 58.1% of students chose C (never); Question 5, "For daily homework assignments, do you have the opportunity to turn in the homework you want to do instead of the homework assigned by the teacher", about 6.6% of students chose A (yes), 8.8% chose B (rarely), and 84.5% chose C (no); Question 7, "Which form of homework do you prefer?", about 12.5% of students chose A (uniform homework for the whole class), 60.2% chose B (graded homework according to difficulty requirements), and 27.2% chose C (both). As shown in Table 3.

Table 3 Students' perceptions of homework assignments

Options	Questions 1 (frequency + percentage)		questions 3 (percentage)	questions 5 (percentage)	questions 7 (percentage)
Item A	84	61.8%	14.0%	6.6%	12.5%
Item B	34	25.0%	27.9%	8.8%	60.2%
Item C	18	13.2%	58.1%	84.5%	27.2%

From the students' options, it is clear that most of the students think that the homework is assigned in a large amount, and in most cases assign uniform homework for the whole class and rarely have the opportunity to submit homework tasks that they can complete on their own, while the students are more looking forward to the choice of hierarchical homework that suits them, so that they can finish the homework on time and also achieve the purpose of consolidating their knowledge.

As shown in Figure 4, the F-values of homework assignment amount and the two dimensions of b) and c) are 13.238 and 4.771, respectively, and the P-values are 0.000 and 0.009, respectively, which are both greater than 0.05. It is evident that the influence of assignment amount on improvement of ability and learning literacy is very obvious, especially The mean values of the two dimensions of improvement of ability and learning literacy are greater than the mean values of the two dimensions of large homework assignments, indicating that the first two dimensions are highly recognized. The F-value for the dimension of the amount of homework assigned on the acquisition of basic knowledge is 2.335, and the p-value is 0.098, which indicates that the influence of homework assignment amount on the acquisition of knowledge is not significant.

Table 4. Analysis of variance for the three dimensions of assignment amount and assignment meaning

	High assignment amount		Moderate assignment amount		Low assignment amount		F	sig
	Mean	Std.Deviation	Mean	Std.Deviation	Mean	Std.Deviation		
a)	3.53	0.936	3.72	0.940	3.68	0.932	2.335	0.098
b)	3.40	1.037	3.85	0.978	3.86	0.909	13.238	0.000
c)	3.34	1.024	3.65	0.984	3.44	0.948	4.771	0.009

### Part-III Homework correction

In Table 5, about 75.0% of the students chose A (full correction), 15.4% chose B (partial correction), and 9.6% chose C (individual correction) for question 9, "How do teachers usually correct homework? Question 10 "In normal times, are there any opportunities for students to view or modify assignments with each other" About 8.3% of the students chose A (often), 69.8% chose B (rarely), and 11.9% chose C (not). As shown in Table 5.

Table 5. Ways of homework correction

Options	Questions 9 (frequency + percentage)		questions 10 (percentage)
Item A	102	75.0%	8.3%
Item B	21	15.4%	69.8%
Item C	13	9.6%	11.9%

From the data of the options, students think that teachers mostly use full correction in homework, sometimes partial correction and individual face-to-face correction, and most students say they rarely have the opportunity to check or revise each other's homework.

In Table 6, the F-values of homework correction and the two dimensions of b) and c) are 3.443 and 7.691, respectively, and the P-values sig are 0.033 and 0.001, respectively, which are less than 0.05, indicating that the effects of homework correction in the two dimensions of b) and c) are significant, and the mean values of homework correction in these two dimensions are above 3.6. which shows that the effect of partial correction and individual face-to-face correction of homework is more significant in these two dimensions. The F-value of homework correction on a) is 2.238 and the p-value is 0.108, which means that the effect of homework correction on students' acquisition of basic knowledge is not significant, that is, which correction method is used has no effect on students' of acquisition basic knowledge through completing assignments.

Table 6 Analysis of variance for three dimensions of homework corrected and homework meaning

	<b>All homework are corrected</b>		<b>Partially corrected</b>		<b>individually corrected</b>		<b>F</b>	<b>sig</b>
	<b>Mean</b>	<b>Std.Deviation</b>	<b>Mean</b>	<b>Std.Deviation</b>	<b>Mean</b>	<b>Std.Deviation</b>		
a)	3.78	0.852	3.93	0.875	3.83	0.854	2.238	0.108
b)	3.49	0.946	3.79	0.945	3.60	0.913	3.443	0.033
c)	3.43	0.956	3.85	0.925	3.71	0.915	7.691	0.001

#### Part-IV Homework feedback

In the feedback of homework in Table 7, in question 12, "How often do teachers comment on homework in class?" about 52.4% of students chose A (often comment), 34% chose B (sometimes comment), and 14.6% chose C (no comment); in question 13, "After the teacher corrected the homework, what do you value more?" About 18.3% of the students chose A (marks), 66.5% chose B (comments), and 15.2% chose C (mistakes). As shown in Table 7.

Table 7. Feedback of the homework

<b>Options</b>	<b>Questions 11 (frequency + percentage)</b>		<b>questions 12(percentage)</b>
Item A	72	52.9%	18.3%
Item B	47	34.5%	66.5%
Item C	17	12.6%	15.2%

From the students' responses, it is clear that teachers usually give timely feedback to students about their work after correcting their homework, and students themselves prefer to receive "one-to-one" feedback from teachers.

As shown in Table 8, the F-values of the degree of feedback on homework results and the three dimensions of a), b) and c) are 5.445, 27.445, and 65.808, respectively, and the P-values sig are 0.005, 0.000, and 0.000, respectively, all of which were less than 0.05, which indicates that the effect of the degree of feedback on homework results in these three dimensions was highly significant. From the F-values of the latter two, we can see that the values of the feedback on homework results in the two dimensions of b) and c) is very scattered, suggesting that the degree of feedback on homework has a strong impact in two dimensions ; where the mean value of detailed feedback on assignments in all three dimensions is above 3.60, indicating that detailed feedback on assignments has the highest recognition in these three dimensions.

Table 8 Analysis of variance (ANOVA) for the three dimensions of feedback on homework results and meaning of homework

	Detailed feedback on homework results		Average feedback on homework results		rough feedback on homework results		F	sig
	Mean	Std.Deviation	Mean	Std.Deviation	Mean	Std.Deviation		
a)	3.61	0.892	3.57	0.964	3.21	0.971	5.445	0.005
b)	3.80	0.873	3.48	0.956	2.91	0.973	27.455	0.000
c)	4.01	0.837	3.64	0.899	2.66	0.987	65.808	0.000

### Discussion

According to the SPSS22.0 data analysis software, the analysis of the frequency, percentage and the significance of the homework implementation process and homework meaning dimensions concluded that:

1. the relationship between the degree of homework design and the three dimensions of homework meaning is very significant, the more elaborate the homework design, the more conducive to achieve the effect of the homework

Therefore, when designing the content of homework, it is important to closely follow the intellectual learning requirements of the lesson and design or select text-based homework to enable students' to master basic knowledge points and improve their skills, and to store the understood epistemic knowledge in a timely manner and internalize it into students' own cognition. Secondly, we should design homework that require students to divergent think and enrich their lives, such as analysis and generalization, divergent thinking, and independent inquiry questions, so as to enhance students' enthusiasm for learning and cultivate their interest in learning; thirdly, we should design some hands-on practical and mutual cooperation topics as needed to enhance students' ability to cooperate with each other in practice, so that students can experience the process, perceive responsibility, accumulate perceptual experience and form reflective cognition in the practical activities of cooperation and mutual assistance. In some subjects, we can even try fully or semi-autonomous homework, in which students design their own learning solutions instead of all or part of the homework assigned by teachers, so as to arouse students' interest in learning and stimulate their motivation for learning.

2. The amount of homework assigned has little impact on the acquisition of basic knowledge, but has a significant impact on the improvement of learning ability and learning literacy

First of all, we should grasp the principle of "moderation" in the assignment of homework. According to Timothy Keen, " In terms of homework assignment "quantity", we recognize the inverted U-shaped relationship between homework quantity and grades(Dettmers, S. , Trautwein, U. , & Lütke, Oliver.2009) , the key to the problem is also that excessive homogenized homework can cause students' resentment and then generate negative learning emotions, which affects the learning effect. Second, in the form of homework assignments, students should be assigned graded homework according to their learning situation, so that each student can independently choose the homework "package" that matches his or her level, and encourage students to give themselves assignments that they can complete independently according to their subject knowledge and their actual situation, so that each student can independently and confidently complete his or her own homework. motivating students to do homework, accumulating their self-confidence, and exercising their independent analysis and problem-solving skills. Third, the "power"of homework assignment should be moderately "decentralized", so that students have the opportunity to assign their own homework, which can increase students' sense of ownership in the homework, to try to mobilize students' participation and develop students' independence, responsibility and awareness.

3. Variations in the way of homework correction are more likely to have an impact on students' improved ability and learning literacy, with less variation in the acquisition of basic

knowledge

In the way of homework correction, first of all, we should realize that the process of homework correction is also the process of re-enforcement of knowledge learning, for some knowledge memory type topics should not be limited to the teacher's correction, should be appropriate to revitalize the correction method, and actively guide students to participate in self-check and mutual check, and this is not the performance of the teacher "lazy".and is also a process of knowledge relearning.

Secondly, the teacher's partial correction and random checking give students the opportunity to check themselves and check each other, which precisely stimulates students' autonomy, makes them participate in this cooperative and interactive activity, awakens students' sense of ownership, makes them realize their responsibility in the form of self or mutual checking, and cultivates students' sense of responsibility and ability to cooperate. Third, in the attitude of homework correction, treating objective text-based topics, must give fair and just judgments, so that students can establish the correct values of right and wrong, while for open-minded activity-based topics, to let students understand their progress and shortcomings at the same time, the teacher should report an open and inclusive attitude, so that students learn to treat new things in society with an open mind.

4. the level of detail of feedback on homework is highly correlated with the dimension of homework meaning, especially as the effect of different feedback varies widely in terms of improved ability and learning literacy

Firstly,students need to get feedback from teachers, who should be more careful in reviewing the corrections, and give pertinent and encouraging statements in the comments as much as possible, so that students can really feel the recognition and care, sublimating the emotions between students and teachers, and enhancing students' learning motivation, as well as guiding students to think rationally, analyze their own shortcomings, strive for improvement next time, and cultivate students' perseverance in learning. Secondly, in the way of evaluation, students should be measured many times and in many values, not limited to the correct rate of a certain homework, but also to see the students' attitude towards the homework, their understanding of the problem, their enthusiasm to put into thinking, and their enthusiasm to cooperate.

### Conclusion

By combing through the history of 'load-shedding' in basic education, we know that the results have been unsatisfactory, and that homework is the core issue of 'load-shedding'. Students' homework is the link between teaching and learning, and is supposed to be a bridge between students' acquisition of theoretical knowledge, the enhancement of practical skills and the development of learning literacy.However, in reality, due to the traditional values of homework and the utilitarian environment of our education, homework has also evolved into an "efficiency tool" ,it has become the most dreaded thing for students and has lost its meaning as a positive function.

This article adopts a quantitative research method to analyse the current situation of homework implementation in primary and secondary schools through the data of questionnaires, combine the three measurement points for realizing the meaning of homework, and draw out the significant relationship between the homework implementation process (homework design, homework assignment, homework correction and homework feedback) and the dimensions of homework meaning. In turn, it gives targeted ways to enhance the meaning of the operation, avoiding the negative effects of the operation while striving to achieve the positive meaning of the operation.The study also aims to change the current situation of uncontrolled, uneven and uniform homework for primary and secondary school students, and to reduce the "burden of schoolwork" on students.

In the future, the study will conduct more Action Research to enhance the meaning of homework and further enrich the theoretical knowledge of homework while improving its effectiveness.



## Huang gang Experimental Middle School Homework Implementation Student Questionnaire

Dear students:

Hello! This is a questionnaire about "the implementation of homework in Huang gang Experimental Middle School". The purpose of the survey is to understand your situation in homework, I hope you can actively cooperate. The questionnaire is anonymous, so please fill out the questionnaire on the spot, please fill out your real thoughts according to the requirements, your choice is very important to my research. But do not have any concerns, the completed questionnaire is strictly confidential and will not affect the teacher's view of you, let alone cause any impact on your study. Please read it carefully before you fill it out and answer each question. All questions in the questionnaire are single choice. Thank you for your cooperation!

Basic Information

Gender:  Male  Female

Grade Level :

(I) Homework implementation

1. Do you think the homework assigned by the teacher is ( ) for you in terms of "quantity"?  
A. Too large, difficult to complete B. Moderate, acceptable C. Small, easy to complete
  2. you think the homework often assigned by teachers is ( )  
A. Simple and repetitive homework B. Moderately selective homework C. Carefully designed homework
  3. Does your teacher assign graded homework according to students' different abilities, interests and personality traits ( )  
A. Often B. Never C. Sometimes
  4. In general, the form of your daily homework is ( )  
A. Written assignments B. Practical assignments C. Both
  5. Do you have the opportunity to assign your own homework instead of the homework assigned by the teacher for your daily homework tasks ( )  
A. Yes B. Seldom C. No
  6. Do you think the homework designed or chosen by your teacher is related to your extracurricular life ( )  
A. have a connection with B. have little connection with C. have little connection with
  7. what kind of extra-curricular homework do you like better ( )  
A. Uniform homework for the whole class B. Leveled homework according to difficulty requirements C. Both
  8. what kind of homework do you prefer ( )  
A. Written assignments to consolidate knowledge B. Assignments to improve the ability to think differently C. Collaborative and interactive assignments among students
  9. The way teachers usually correct homework is ( )  
A. Full correction B. Partial correction C. Individual face-to-face correction
  10. In general, do students have the opportunity to check or revise each other's homework ( )  
A. Very often B. Rarely C. No
  11. the teacher's comments on homework in class ( )  
A. often B. sometimes C. not
  12. After the teacher has corrected your homework, what you value more is ( )  
A. the marks B. the comments written by the teacher C. the wrong questions
- (II) Homework significance
- This questionnaire uses likert5 scoring to indicate the intensity of the meaning of the homework, and the following items are recognized from the lowest to the highest level.
13. the form and type of homework stimulates your interest in learning new knowledge points ( )  
A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful
  14. the assignment of homework is helpful for you to consolidate the basic knowledge you have learned in time ( )  
A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful
  15. the content of the homework is useful for strengthening the connection between old and new knowledge  
A. Not helpful at all B. Not helpful C. Not sure D. Helpful E. Very helpful
  16. the topic of the assignment for the application of what you have learned ( )  
A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful
  17. whether the completion of the assignment helps you to develop your analytical and judgmental

skills ( )

A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful

18. whether the content of the assignment helps you to improve your ability to understand and make inferences ( )

A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful

19. whether the open-ended questions help you to exercise your logical thinking skills ( )

A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful

20. whether the form of collaborative work helps to increase your communication and interaction skills in joint work

A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful

21. whether the regular completion of homework helps you to develop active and independent learning habits ( )

A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful

22. whether completing assignments that you can do with effort will help you increase your self-confidence ( )

A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful

23. Does the process of constantly exploring the answers to questions help develop willpower ( )

A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful

24. whether the practical experience questions help enrich your social experience ( )

A. Not at all helpful B. Not helpful C. Not sure D. Helpful E. Very helpful

I would like to express my deepest apologies for taking up your valuable time, and once again express my gratitude for your sincere cooperation, and finally wish you progress in your studies and a happy life.

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## Data appendix

Table 9. Statistical table of quantitative option data (question13,14,15)  
of Homework design degree and Homework significance three dimensions

variable	Frequency					percentage				
	Not at all helpful	Not helpful	Not sure	Helpful	Very Helpful	Not at all helpful	Not helpful	Not sure	Helpful	Very Helpful
a)	23	106	107	175	133	4.2	19.5	19.7	32.2	24.4
b)	21	103	101	181	138	3.9	18.9	18.6	33.3	25.4
c)	18	95	100	186	145	3.3	17.5	18.4	34.2	26.7

Table 10. Statistical table of quantitative option data(question16,17,18) of Assignment quantity  
And Assignment significance three dimensions

variable	Frequency					percentage				
	Not at all helpful	Not helpful	Not sure	Helpful	Very Helpful	Not at all helpful	Not helpful	Not sure	Helpful	Very Helpful
a)	3	70	165	211	95	0.6	12.9	30.3	38.8	17.5
b)	13	76	147	202	106	2.4	14.0	27.0	37.1	19.5
c)	12	95	163	194	80	2.2	17.5	30.0	35.7	14.7

Table 11. Statistical table of quantitative option data (question19,20,21)  
of Homework correction and Homework significance three dimensions

variable	Frequency					percentage				
	Not at all helpful	Not helpful	Not sure	Helpful	Very Helpful	Not at all helpful	Not helpful	Not sure	Helpful	Very Helpful
a)	3	30	155	230	126	0.5	5.5	28.5	42.3	23.2
b)	6	62	200	180	96	1.1	11.4	36.8	33.1	17.6
c)	7	69	192	184	92	1.3	12.7	35.3	33.8	16.9

Table 12. Statistical table of quantitative option data(question22,23,24)  
of Homework feedback and Homework significance three dimensions

variable	Frequency					percentage				
	Not at all helpful	Not helpful	Not sure	Helpful	Very Helpful	Not at all helpful	Not helpful	Not sure	Helpful	Very Helpful
a)	6	60	199	187	92	1.1	11.0	36.6	34.4	16.9
b)	10	56	185	196	97	1.8	10.3	34.0	36.0	17.8

c)	10	47	158	202	127	1.8	8.6	29.0	37.1	23.3
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