

Repercusiones de la tutoría académica en estudiantes de ingeniería

Effects of academic tutoring on engineering students

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Resumen

El objetivo de la investigación es analizar la trayectoria académica del estudiante de ingeniería de la Universidad Politécnica de Sinaloa, México, a través del programa institucional de tutorías y asesorías. El análisis de los resultados muestra que 67 % de los estudiantes tiene conocimiento sobre el programa institucional de tutorías, 80 % ha recibido al menos una tutoría a lo largo de su trayectoria escolar y 100 % dice haber notado un mayor avance en el área de deserción académica. Con base en dichos resultados, se concluye que la acción tutorial se concentra en ayudar a resolver problemas académicos dejando de lado los personales, y que la labor del departamento de asesorías y tutorías de canalizar a los estudiantes a las instancias correspondientes es satisfactoria.

Palabras clave: tutoría, asesorías, ámbito académico.

Abstract

The objective of the research is to analyze the academic career of the engineering student of the Polytechnic University of Sinaloa, Mexico, through the institutional program of mentoring and advisory services. The analysis of the results shows that 67% of the students have knowledge about the institutional tutoring program, 80% received at least one tutoring throughout his school career and 100% says have noticed more progress in the area of academic attrition. Based on these results, it is concluded that tutorial action focuses on helping to solve academic problems leaving aside the personal, and that the work of the Department of consulting and mentoring channel students to corresponding instances is satisfactory.

Key words: tutoring, consulting, advising, academia.

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Introduction

Attrition, the student backwardness and the low terminal efficiency rates are among the most complex and frequent problems the Higher Education Institutions (HEIs) encounters, which at present are practically recognized by all of them (ANUIES, 2001a). That's why the (HEIs), concerned about the latent problems and their impact on the school population, have sought alternatives and strategies to give solution. Thus, emerges in Mexico the Integral Development Program for Students, whose aim is to: support to students in the Higher Education System (SES) through tutoring and integral development, programmes designed and implemented by the HEIs, so that a high proportion of them finished their studies in due time and to achieve the training objectives set forth in the plans and programmes of study. This strategy is set to document the Higher Education in the 21st century, developed by the National Association of Universities and Higher Education Institutions (ANUIES), (2003 Romo). For ANUIES (2001b), mentoring is a process of accompaniment during the formation of the students, with personalized attention to a student or a small group of students by competent teachers, leveraging more on the theories of learning that in theories of teaching.

For Marquez (2003), implementation of mentoring programs main purpose is raise the academic quality of the students, through their skills and knowledge of his being, in order to increase terminal efficiency and influencing failing, desertion and backwardness rates. Thus, mentoring is intended to prevent future problems of adaptation to the educational stage and intervene on matters of academic performance. For Cruz et. al. (2008) mentoring focuses on addressing problems related to terminal efficiency, failing, studying skills, difficulties in learning, anxiety before tests, emotional stability, attitudes towards the profession and career paths, among others Viel (2014) states that mentoring is a form of support, guidance and support to students; Mentoring is presented as an improvement strategy which, along with the review of teaching practices and institutional management model, could weaken the above problem and increase the quantity and quality of graduates.

Concerned HEI to measure the implementation of mentoring program in their academic programs, various studies have been conducted to evaluate the performance of academic tutoring students, which highlights the following: the study presented by Guerrero et al. (2014), discloses the vision and appreciation that students have of mentoring, in order to involve their opinion in shaping the mentoring program at the institution, considering the importance of the tutor and their roles in this process. Their results indicate that 85% of respondents believe it is necessary an improvement in the current mentoring program. Ayala et al. (2014) conducted a study with students from the engineering career in business management; his research resulted in the institutional mentoring program still has no strong impact on the formation of the student, which suggests a number of corrective actions among which design, implement and evaluate institutional mentoring program on the basis the participation of each and every one of the fundamental instances for it. Garcia et al. (2012a) points out the positive impact on students attending tutorials in all its forms, physical or virtual. He studied its effect on the average grades obtained by the student in the semester courses and tutoring in the percentage of disapproval.

In another study by Garcia et al. (2012b), the impact of mentoring program in the academic performance of students of the Technological Institute of Sonora is analyzed. It was found that the genre they belonged to, whether they had completed some tutoring and their average high school were significantly related to academic performance. Technological advances are enabling

new scenarios conceive training and counseling, which extend resources accessible to students and tracking facilities tutoring by teachers. Olives et al. (2013) analyzed the tutorial action applied to the use of technology in their study found that 85% of respondents preferred the use of some form of technology to communicate with your tutor. Aguaded et al. (2013), in his article presents the results of a research aimed to know and analyze the opinion of students of the degree in psychology on the tutorial system at the university level, where it concludes that the university tutor should be considered as one of its main objectives to offer help and advice to students at different stages of their academic careers, both at the beginning of this new phase as along it and after graduation. All this shows us an overview of studies on the perception students have about the tutorials, where different research results presented considering various variables such as type of tutoring, advantages and benefits of mentoring, performance of the action orientation, type of communication with the tutor, and so on.

Institutional tutoring program and academic advising of the Polytechnic University of Sinaloa, Mexico, was created as a strategy to address the academic problems of students may have their origin in the socio-cultural diversity, socioeconomic inequalities, heterogeneity in prior knowledge and skills study, vocational choices insecurity and so on. The tutorial function is part of the task of teachers. His intervention develops custom shape from the individual and group modalities, and is to accompany the process of integration to university students, guide on learning concepts and disciplinary procedures, advise on academic and administrative aspects of the race They study, as well as detect and derive the psycho and social problems to the appropriate professional mentoring program within the character.

In order to evaluate the performance of academic tutoring engineering careers, it is proposed to analyze the perception of the students regarding the coverage and scope of the tutoring during their school career, in order to improve efficiency ratios terminal, and reduce the possibility of desertion and failure. The objective of this research is to analyze the student's academic career engineering at the Polytechnic University of Sinaloa (UPSIN), through the institutional program of counseling and tutoring, also considering the influence of personal problems in academic students. In the study the process of assessing the perception of students regarding academic

tutoring is described in detail; furthermore, the weaknesses and strengths of the institutional mentoring program in UPSIN were detected.

Data collection and analysis

This is a study of quantitative approach since data or components from different aspects of students on tutoring are collected, and the data are described by a consistent in using measures of central tendency and frequency descriptive analysis to classify data . This research uses a data collection instrument based on a questionnaire, which is applied to engineering students in the careers of Mechatronics Engineering, Information Technology and Biotechnology of the Polytechnical University of Sinaloa. The questionnaire includes 16 statements and answered by students using the Likert scale, allowing them to select the level of your choice. The survey questions were organized to discuss the importance they had tutoring for students, if they know the institutional mentoring program, whether they received help from the tutor, what was the type of tutoring they received, if maintained communication with his tutor, and if there were changes or improvements to receive tutoring. The data help to measure the perception of students about academic tutoring program.

Then the data obtained in the descriptive analysis are described. Of all students surveyed, 67% agreed that know the institutional mentoring program (PIT). Figure 1 shows the results of the question: Do you know the institutional mentoring program?

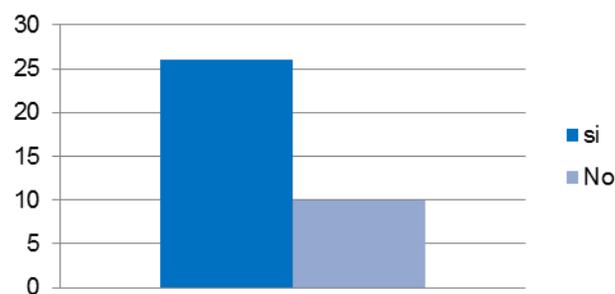


Figure 1. Importance of mentoring for students.

In addition, it was observed that 80% of students did not know the procedure is performed to provide mentoring, ie, ignoring how his tutor for help. See figure 2.

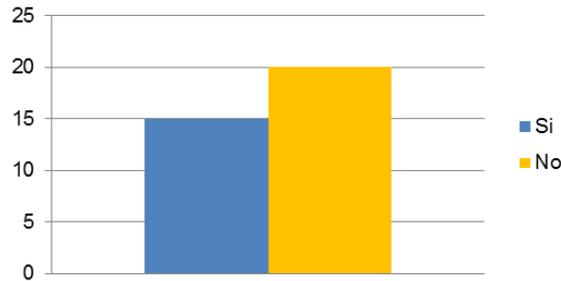


Figure 2. Knowledge of students on tutoring sessions.

It was found that 20% of students said they have never received any kind of tutoring by his tutor, while 80% report having received a tutoring session along their training. In Figure 3, the answer to the question occurs: Have you received some tutoring?

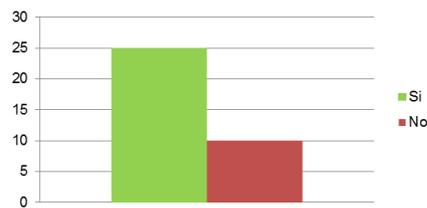


Figure 3. Opinion on whether students have received academic tutoring.

Students were asked how often receiving academic tutoring by his tutor, the finding that 40% received at least once a month, 30% said they did so on average every two months, 14% received tutoring every week and only 9% received tutoring daily. See Figure 4.

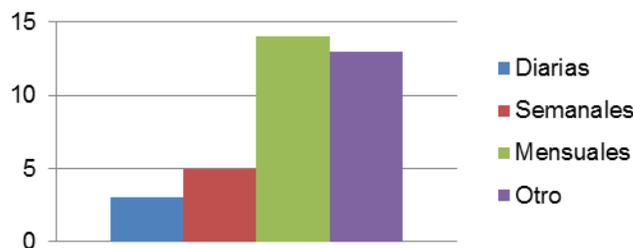


Figure 4. Frequency of tutorials given to students.

Figure 5 shows the response of students to the question shown: How did you hear about the allocation of your tutor? 43% claim to have heard through the comprehensive system of academic

and administrative information (SIIAA), administered by the UPSIN page, 20% said they learned of the staffing form by submitting your tutor in their classroom, 17% did so through email, 17% by other means of communication, and only 3% said it was written.

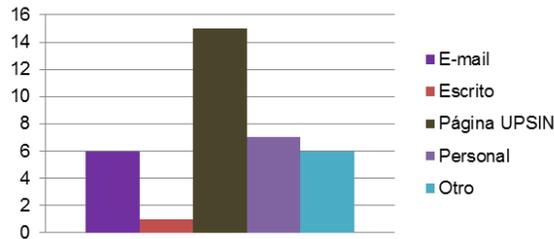


Figure 5. A means by which the student learned tutor assignment.

It was necessary to find the means by which students came to the guardian to apply for support when faced with a situation like low academic achievement, personal problems, lack of tuition payment or discipline. After that, students were asked: By what means Dealer tutoring? Responses were personally 40%, 40% other means through the platform SIIAA UPSIN page 13%, and through the mail with 7%; the answer was no mention was, in writing. See Figure 6.

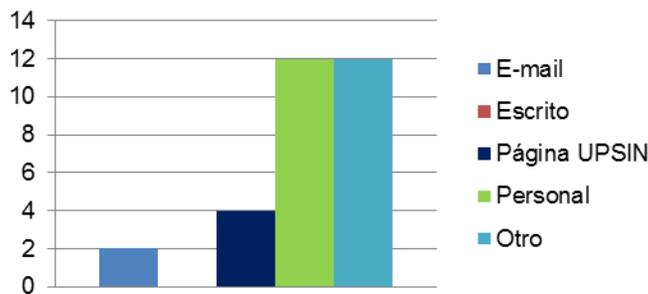


Figure 6. Middle tutoring request.

Students were asked: Do you know your tutor ?, result indicate that the vast majority (91%) did know the tutor assigned to you. See Figure 7.

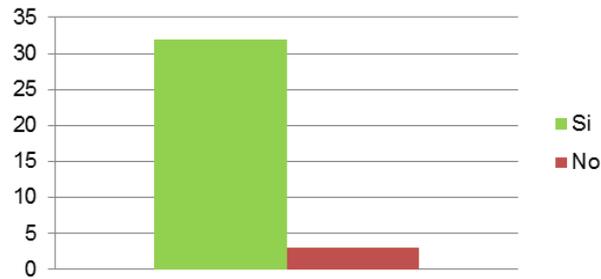


Figure 7. Students who show meet his tutor

Students who knew her guardian were asked: Have you had communication with your tutor? 89% said they themselves have had communication with him to discuss academic issues, while the rest has so far had no contact. See Figure 8.

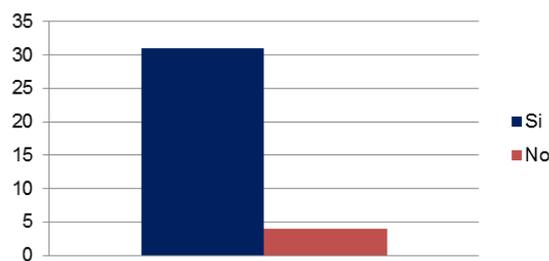


Figure 8. Communication between students and their tutor.

Figure 9 shows the type of communication between students and their tutor shown. To perform the tutoring program it found that better communication between student and tutor comes in personally 70%, followed by 16% and 6% email through SIIAA platform page UPSIN . Less frequently chosen options were written with 3% and 2% other.

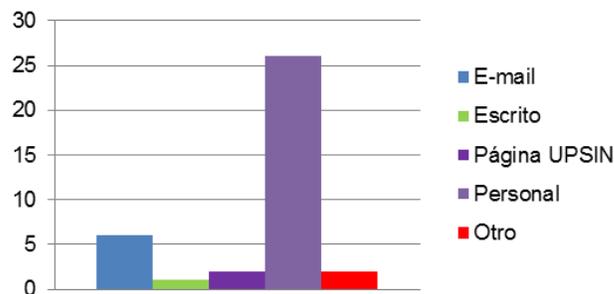


Figure 9. Type of communication between student and tutor.

As for the organization and control of mentoring by the tutor, he asked the students if it performs scheduled appointments to perform the tutorial with them. Students felt that 83% of them have no timetables are tutorials, ie that only seek to tutor when they have some kind of problem, while the remaining respondents do lead follow up with scheduled appointments through mentoring. See Figure 10: Have timetables are tutoring?

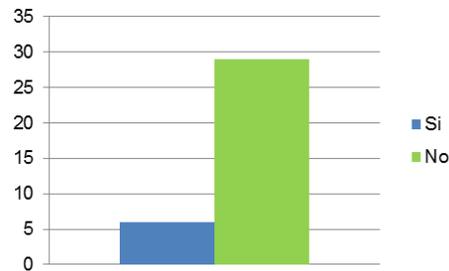


Figure 10. Students who have appointments with your tutor schedule event.

Students mentioned that sometimes look to other teachers who are not their guardian may discover unto that have some kind of problem, so we decided to ask: Have you consulted another teacher who is not your tutor when you need? 80% of respondents have confidence students said another teacher to express their problems, while only 20% said it is confident his tutor. See Figure 11.

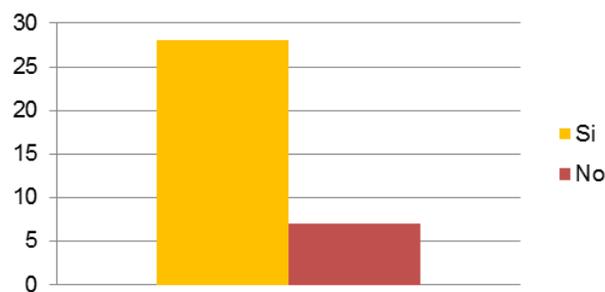


Figure 11. Students who show trust him to another teacher who is not his guardian.

One service that gives institutional mentoring program is to provide educational psychologists attention, that supports to channel cases where the guardian can not intervene. Therefore, students

will be asked: When your guardian feels it has at its disposal the necessary steps to help you resolve your conflict tools, do you channeled tutoring department to schedule an appointment with the area of care psychology? Students mentioned in 34% that the channel when the guardian can not solve its problems, while 66% said no channel, so they seek help directly. See Figure 12.

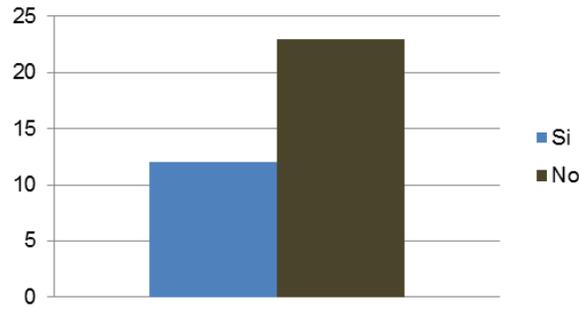


Figure 12. Students channeled by his tutor for psychological support.

In monitoring the guardian gives his students, 68% of respondents mentioned that the tutor is pending academic performance, counseling and support, while 11% said the tutor does not show availability to serve them. See Figure 13.

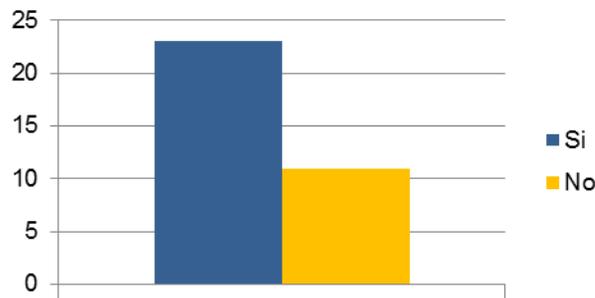


Figure 13. Students who have been followed up by his tutor.

Figure 14 shows the response of students to the question: Have you noticed progress in your academic performance with the support of mentoring? Notably, the most common mode of assistance is linked to academic performance, so 71% that had a significant progress in this area.

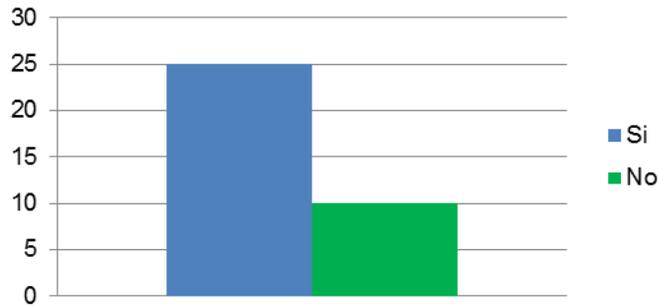


Figure 14. Students who had some kind of breakthrough to be attended by his guardian.

As for the progress shown by the students, 30% of respondents were able to avoid the academic dropout with the help of the tutor, while difficulties qualifying, with 24% and attitude problems and personal, with 23%, also they improved. See Figure 15.

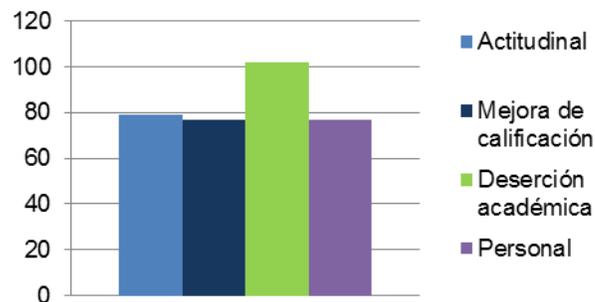


Figure 15. Type of advance shown by the student to receive the support of his tutor.

The confidence of the student to the tutor was measured with the question: Would you trust your tutor to discuss your academic and personal matters? 28% said they always had him confidence to express their problems, followed by 21% occasionally, of 18% rarely and usually, and finally, with 15% never. See Figure 16.

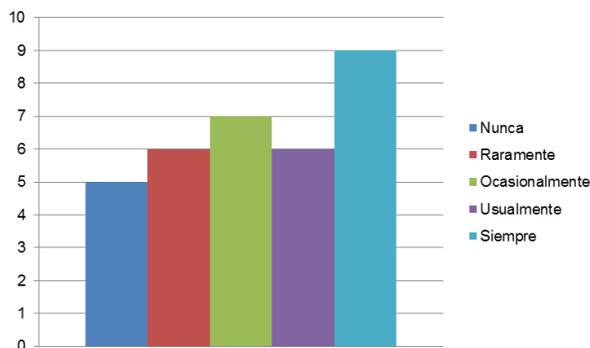


Figure 16. Level of confidence felt by students to tutor.

Discussion of Results

In the affective domain it shows that students prefer to trust their personal concerns to someone else and not her guardian, which can have two explanations: the tutor is not ready or has the sensitivity to address these issues, so it is not set the relationship of trust; or the student does not feel accompanied and prefers to tell his business to another teacher or friend.

Tutor for the task of mentoring involves a extraclase process, an activity that has to do to fulfill their assigned duties. Sometimes it assumes tutoring because it is necessary for the evaluation of academic performance, which favors the simulation of teaching talks. The guardian assumes that mentoring is to resolve complaints of examinations or advise individual or group work, leaving aside personal conflict likely to have the student. Although students also say that mentoring has benefited them in their training, strategies and skills in general positively qualify the information obtained during tutoring sessions related to academics. This causes them satisfaction, which is a way to evaluate the work that the guardian has done as it relates to whether there has been improvement in academic performance by relying on the institutional program of tutoring and mentoring.

Cases of students who do not know the tutoring program are reused or fully integrated academic program to that observed. It is therefore necessary to strengthen the channels of communication between tutors and students, as well as monitoring the mentoring. Overall, the analysis of the results shows that at least 67%, students have knowledge of the institutional program of tutorials

and advice, and the perception of this activity and its tutor is more inclined to be positive than negative , Given the:

- All students are assigned a tutor; however, only 91% reported knowing.
- The tutorials are regularly performed in scheduled sessions.
- 80% of students attended the event with his tutor.
- 68% of students are satisfied with the action taken by his guardian.
- As for the advancement of their academic performance, 71% of students have shown a significant advance when they have been looked after by his tutor.
- The most significant development has been to avoid the academic desertion.

The analysis of the results has identified the following areas of institutional opportunities and counseling mentoring program, which has been a strategic framework for retention of students in the institution component and strengthen their comprehensive training with a humanistic approach. Therefore, it has been constant attention to its implementation and development. The problems detected in the tutorial function performed by teachers lies in: (1) study skills, (2) strategies to address learning difficulties and (3) personal interactions with their mentees in the field of affective. These aspects are being strengthened with the diploma offered by the institution in the case of academics. Promotion and development of skills and learning skills and life plan that is developed during the fiscal year: to guide students workshop standing conferences on is performed.

The Institutional Tutoring and Consulting Program at the Polytechnic University of Sinaloa, whose strategies initially pointed to the assimilation of mentoring as a complementary activity to teaching, has been gradually changing towards an integrated approach to the educational process, whose success It depends largely on its structure and function. This means that mentoring should not be seen only as individual attention between student and tutor, but as the search for the development of the student, an act institutionally planned. Given the importance of this process, it is necessary to constantly evaluate, correct deficiencies, strengthen the positive aspects and provide feedback on student services programs, such as vocational, counseling and medical care. It is advisable to plan the tutoring prioritizing cases and / or urgent factors, then important also

considering institutional objectives, land agreements and plans with managers and support staff. Currently in UPSIN it has implemented a strategy by way of diagnosis, aimed at students recently joined by a tool and battery software, which evaluates multiple factors that impact the teaching-learning process, with which we intend on having comprehensive psychometric information , reliable and appropriate for each student to meet all its dimensions, identify strengths, areas of individual and collective opportunity, and be able to objectively substantiate its preventive, corrective actions or psycho-educational support. This allows more efficient and strengthen academic achievement timely and comprehensive development of learners. Otherwise, without a comprehensive psychometric profile, it will react belatedly exposed to difficult problems to correct, as is academic failure or dropping out.

Conclusions

From the results shown, for analysis and discussion, the following conclusions on the perception of students about institutional mentoring program were obtained. Whereas learning is an interpersonal process, the human being, from its origins to the present, he has always learned in the company. Therefore, students are much more than a license plate. With the help of institutional mentoring program you seek to accompany them throughout his career. To admit them as part of an educational institution, this makes a commitment to provide comprehensive training, both in the powers of his career and the knowledge to be. The tutored students express that they are satisfied with their tutor because this always or almost always helps them solve academic doubts. The core problem of the tutorial is located in the area of academic support, for example, study skills and strategies to address learning difficulties; however, they are still putting aside personal problems. Therefore, we must strengthen the role of the tutor in the following areas: the development of study skills, the development of strategies to address learning difficulties, and the process of teacher-student interaction. The guardian must diversify its forms of student support, since the face tutoring has the highest frequency of communication with the student. The need to promote virtual tutoring because it is more comfortable, accessible and quick for both the tutor and the student is evident. As for elements tutorial attention needed to strengthen, it is designing a tutor training program with your project or program monitoring to provide feedback or institutional redesign tutoring program.

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