

Section 6. Pedagogy

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CDIO APPROACH IN TEACHING PSYCHOLOGY FOR STUDENTS IN THE PEDAGOGICAL SECTOR OF VINH UNIVERSITY

Abstract. Psychology is a compulsory pedagogical training subject in the training program for all students in the early years of university. Psychology not only helps students practice pedagogy but it also promotes self-study and creativity. However, in recent years, the results of studying in Psychology of students in universities tend to decrease. In order to improve the situation and improve students' learning results, this article proposes a number of solutions to improve the quality of teaching and learning Psychology in the direction of CDIO approach.

Keywords: CDIO approach, quality of teaching, psychology, pedagogical student, innovating teaching methods, practical orientation, testing.

I. Introduction

Vietnam's integration into the global economy, through its accession to the WTO (2007) and the ASEAN Economic Community (2015), places ever greater demands on Vietnamese educational institutions to train a highly skilled workforce to meet the socio-economic development needs of the country.

This requires reforming the training program, developing the quality assurance system and the quality accreditation process. A number of policies and initiatives have been implemented at the national and institutional level, such as the Higher Education Quality Assessment Criteria (2007); advanced programs; training program evaluation according to AUN-QA standards; verify some training programs according to ABET standards; standards for evaluating the quality of training programs (2016). While the programs are advanced, assessment and testing standards provide

the model and specific requirements and conditions that a training program needs to meet, Vietnamese higher education institutions still need a more comprehensive methodology or standard framework for the continual improvement of the quality of the training program. Vinh University was one of the first universities in Vietnam to recognize the CDIO approach like as an initiative and methodology for technical education reform with the CDIO outline and a set of CDIO standards, helping answer the questions "what to do" and "how to do" in a systematic and optional way, thus it is feasible to settle the specific requirements and conditions of different training programs. With many strengths, the CDIO approach is adopted as a reference framework to develop a standard framework for training program reform.

It can be seen over the years, one of the important contents in innovation done by Vinh University in

recent years is to build output standards with high requirements according to CDIO approach. Outcome standards are affirmation of what a student should know, understand and be able to do at the end of the program. However, a question arises, “What to teach and how to teach for subjects in the fields of basic science and general knowledge to ensure output standards?”

“CDIO” is an approach to output capacity-oriented training in universities. This theoretical model provides a scientific basis and a system of quality standards to ensure higher education institutions to solve two central problems: what to teach for student (what to teach?) and how students acquire knowledge (How to teach?). Thus, these questions are also the purposes that we set out above, which are issues to be solved for higher education in general and technical training in particular around the world in the context of outstanding development about the explosion of knowledge, industrialization, internationalization and other global issues.

Aiming at solving those problems, the “CDIO” model has mentioned 12 standards that reflect the comprehensive training process and training quality management towards technical education reform. But most importantly, according to the CDIO approach, the output standards are designed for training sector with 4 level detailed enough to develop the training program, teaching design and evaluation. CDIO theorists have built a detailed list of knowledge and skills (“CDIO” outline) in the form of a four-level structure. Level 2 of the CDIO outline (figure 1) once again affirms the role of the subjects on the basic knowledge block for the output standards of the training program.

Through the above analysis, it can be seen that the CDIO approach also aims toward how to teach for students so that after graduation they can achieve the established output standards. This research must be done for each specific subject in the training program.

It can be said that the concept of Psychology is a general subject that still exists in the opinion of some

managers – trainers and even students, so it is necessary to define the detailed tasks of the subject which is very urgent. From the 2000s onwards, Psychology along with Education is still arranged to train and organize training as a common subject for students of the whole school. This concept involves a series of related factors such as: payroll of class, arrange the number of periods in a session, choose lecture halls – classrooms, organize examinations – evaluation ... If there is still this concept, it will certainly be difficult to improve the effectiveness of Psychology teaching in the direction of practicing pedagogy, because the class is too crowded, the time is 6 consecutive lessons, the classroom is lecture halls ... so it is very difficult to target pedagogical professional skills and of course, effective teaching is a challenge [1; 2].

For students, the definition of learning tasks along with forming learning goals for students must be done throughout the teaching process of Psychology. Every lecturer and even the training department of University or in charge of training of the faculty that follows the trend of training credit, the academic advisor should pay a lot of attention to defining the learning task of Psychology as a subject to form pedagogical professional skills. Defining the subject’s tasks clearly: “Determining the conditions, rules for the formation of personality in each age, studying psychological phenomena & events for each age, rules of those psychological phenomena & events, facilitating the study of age characteristics, natural factors of capacity – excitement ... of ages, research on the formation of age personality, factors influencing personality formation according to specific ages, studying the psychological foundations of teaching and educational activities ... , helping the university to orient measures to develop psychology, personality according to each age, each object ... “ that needs to be implemented one by one deeply.

For the above reasons, we have carried out the study of “CDIO approach in teaching Psychology for students in the pedagogical sector of Vinh University towards meeting output standards”.

II. Situation of teaching Psychology to the requirements of the outcome standards at Vinh University

To assess the status of teaching psychology, we have surveyed the opinions of lecturers and students about the difficulties that they encountered in the teaching process. According to this survey, the biggest difficulty facing lecturers is that the curriculum is heavy in theory and lack of practicality (44.4%); followed by the lack of materials and textbooks (40%). Some other difficulties revolve around the subject of the subject's curriculum, such as: the length of the subject is small, the knowledge is not enough, and skills formation in students or students are not actively studying.

As for the students, according to the survey results, 65.8% think that the ability to find information related to the subject is limited; 64.7% reported the lack of materials and textbooks for the subject; 50% think that the content of the subject is heavy in theory, with little practice, so the applicability is poor. Then there are limitations such as: learning a lot of contents but not in depth, heavy curriculum distribution, the subject has not been updated, the teaching methods of lecturers are not attractive and inappropriate.

- The practice of problem solving skills has not been shown much in the lecture, and has not focused on training problem solving skills for students.

- The test and assessment of learning results have not been linked with practical contents and career requirements.

- Not promoting self-study ability, teamwork ability of students through group exercises, heavy homework ...

That situation leads to the low results of the exams of psychology. Moreover, the majority of students think that this is a difficult subject and have not yet oriented the application of learned knowledge to their practice as well as to practice skills through studying this subject. This is most clearly demonstrated in the student's assessment of the lecturers in this subject.

For instance, the questions have the content such as: 1) The lecturer raises many issues related to the

subject for students to refer to; 2) The lecturer organizes for students working in group; and 3) Your general impression of the quality of teaching in this subject. And with options for students: a) Totally disagree; b) Disagree; c) No comments; d) Agree; and e) Strongly agree, with these options, we often get the student's answer (c): No opinion.

From the above situation, we found that the study of "CDIO approach in teaching Psychology for students in the pedagogical sector of Vinh University" is an urgent requirement.

III. Develop outlines of psychology following CDIO approach towards meeting output standards

Follow the second element of the CDIO process for building a curriculum framework and go to a detailed outline of a subject in the overall program, and also refer to how it is to be developed. We propose the process of building the outline of psychology at Vinh University.

Step 1: Determine the goal of psychology.

Step 2: Determining the output standards of a Psychology in 3 parts: G1: Scientific and technical knowledge; G2: Personal skills and communication skills; G3: Attitude.

Step 3: Determine the correlation between the output standards of the subject and the output standard of the training program according to 3 criteria: Utilize, Teach and Introduction.

Step 4: Determine the teaching method for the Psychology module.

Using a combination of methods: lectures, presentations, problem-based teaching, brainstorming, pair sharing, team work ...

IV. Some methods of teaching Psychology for students in the pedagogical sector towards meeting output standards

1. Strengthen the compilation of textbooks, lectures and instructional documents to meet the requirements of reference materials and equip all necessary teaching facilities

- *Innovating how to write textbooks:* change the traditional presentation style in the form of

announcements – explanations – illustrations to the organization of discovery learning activities, through which students dominate the content knowledge. However, it should not be extreme, have the ambition to turn the entire lesson into a series of discovery activities. This is not possible because the amount of knowledge in each lesson is quite large and the theoretical level of the program is quite high. If you put in too many activities into each lesson, lecturers and students have to run over time, it is difficult to think and discuss to a great place, and then the research activities proposed will be only formal. Please select a few appropriate activities, focusing on the focus of the lesson so that students really have time to think and discover the key knowledge. The rest can still use the familiar traditional writing style.

For example: In the curriculum of *general psychology* in the part of cognitive activities, after presenting concepts, the laws of each cognitive process, it should offer activities for students to find out the applications of the cognitive rules in teaching your own subject later and everyday life.

– *The curriculum must always be supplemented, improved and updated with new and modern knowledge:* For example, in the curriculum of age psychology and pedagogical psychology should update the psychological characteristics of teenagers and high school students of the current integration period, classifying intellectual activities by Benjamin S. Bloom: six levels of intellectual activity of Benjamin S. Bloom, applying intellectual activity levels in the teaching process so that students apply and design lesson goals to develop thinking for students in the future.

– *Materials can be compiled to guide students in self-study of the subject.* The content of instructional materials includes: required purpose of the subject, types of textbooks and references available, system of exercises, facilities, equipment, knowledge that students need to prepare. It is necessary to have before starting school, teaching organization, instruction for each specific chapter and lesson. This tutorial can be

merged with the course syllabus. In particular, at the end of each chapter, it is necessary to compile a diversified system of practical exercises, gradually improving from easy to difficult, with content pertaining to reality, social issues and especially associated with the training major. There may be suggestions for solving difficult practical exercises for students to challenge, practice and test for themselves.

– *It is necessary to equip all necessary teaching facilities so that lecturers can apply information technology to their teaching, active teaching methods to achieve the highest efficiency, contributing to the development of self-study capacity, self-study for students.* The maximum class size of psychology is 50 students/class so that lecturers can organize diverse and active teaching forms.

2. Innovating teaching methods towards promoting the student's learning positivity, stimulating learners to increase self-study and self-study

– *Reducing the theoretical ratio in the form of presentation in the class of the lecturers,* spending appropriate time for students to practice solving psychological situations, for self-study, self-research, seminar, discussion, question answer. Teaching time of lecturers is less than 70% of time in class. The classroom is a place for in-depth discussions and exchanges. Lecturer presents briefly and appropriately illustrated. Students feel to be respected and highly valued when communicating and feel responsible for their own learning and progress during class.

– *Increase the use of teaching methods to detect and solve problems:* For students to explore, observe in real life and discuss to discover the problems of different ages that are common in the present period ... and offer ways to solve them. For teaching, the problem detection and resolution can use these different levels, depending on the degree of independence of students in the teaching process.

– *Enhance the organization of group learning activities so that students can exchange, explore, discover and demonstrate how to acquire knowledge.* To organize this form of teaching, lecturers need to

carefully study the teaching content, from which some lessons can be found to organize activities in groups.

For example: The lecturer/instructor can choose *the types of senses, perceptions ...* to use the form of group discussion. Before teaching this section, the instructor asked students to read the textbook at home and answer the questions asked by the instructor. After that, the instructor organizes the class into groups, each group has about 7–10 students, including fair, excellent, average and weak students.

On the basis of group division, lecturer introduces discussion topics for all students, ask questions - discussion problems, suggest thinking directions and solve problems through the outline given by the lecturer to give orientation for student.

Lecturer gives case exercises that force groups to think and come up with their own answers. Situations are often applied exercises, requiring students to know how to apply the theoretical knowledge both exchanging and affirming to solve them.

Thus, group discussion has initially formed in students the ability to self-study, self-research, show scientific thinking methods and get acquainted with scientific presentation. In this way of learning, students demonstrate their responsibility in learning, in groups, demonstrate the spirit of competition in learning, friendship and mutual help in learning. Group discussion teaching form creates a close and open exchange between lecturers and students, lecturers can easily get feedback from students. From there, the lecturers can adjust the content and teaching methods for higher efficiency. Furthermore, because the classrooms are divided, teaching is closer to the audience. By giving case exercises and posing more complex questions, so it encouraged quite good students to develop their ability to participate in lesson development, at the same time, we have conditions to help weak students through cooperative activities in the study group [3].

3. Organize activities for students to familiarize themselves with scientific research and guide students to apply their learned knowledge into practice

Self-study capacity of students formed and developed in the learning process will be the basis for developing scientific research competencies. If students' qualifications and learning methods develop to the level of scientific research, they will also help students develop sustainably for their self-study capacity, helping them to study regularly and throughout life.

It is possible for students to practice scientific research in the form of research that applies their learned knowledge into practice, selectively illustrate examples, and practical exercises associated with the subject being trained. For example: In a simple form, it is possible to assign each group to make group presentations to apply *the process of concept formation, skills, techniques in teaching the subject later* (Pedagogical Psychology). In a more complex form, it is possible to create a great practical exercise or an essay with the topic: "*Research on the status of the self-study capacity of students under (Faculty name), Vinh University*". Combining with specialized faculties, Lecturers can guide students to do research on scientific topics according to the process: Develop sample questionnaires, collect data, quantify by scoring each sentence, each question, make statistics, then process statistics using the statistical models learned to evaluate ... Based on the obtained results, students can propose solutions to develop self-study capacity of students of Faculty (Faculty name), Vinh University.

4. Attaching importance to the innovation of examining and evaluating students' study results.

In order to increase students' self-awareness and self-learning capacity in psychology, it is necessary to renovate test methods and evaluate students in the direction of publicizing the assessment process and results. Evaluation with student attendance.

– *Lecturers need to publicize the content of test and exam issues for the subject.* Specifically, right from the beginning of teaching the subject, the lecturer needs to announce the study plan of the subject, the time for implementing the program, clearly tell students the plan and form of the final exam, the form of partial exam of the program (each chapter), some

provisions on module classification, process score proportion (50%) and final test score (50%).

– *Lecturers need to mark the tests in time, correct them and point out the mistakes that students often encounter.*

It is necessary to coordinate many measures to examine students personally, creating conditions for students to reveal their true nature. When taking the written test, it must create strict conditions for students to do the test seriously and honestly. For example, we may issue many test questions of equal magnitude. Test questions must be suitable for the majority of students in the class, and there are additional questions for good students. The subjective multiple-choice test questions at the end of the module must evaluate the knowledge scope covering the entire subject, ensuring depth and applicability to teaching practice. Timely notifications and publicize the results of all tests. From there, students will be self-aware and self-evaluate their abilities, adjust themselves and have the direction to strive for the next.

– *The evaluation of group activities in the course of learning the subject must be aimed at building students' awareness and ability to self-test and evaluate. Therefore, it is necessary to have forms and methods of assessment and scoring for group work products with student participation.*

V. Conclusion

Thus, the study of CDIO approach in teaching psychology has initially oriented the subject teaching for pedagogical students at Vinh University.

The initial results show that students learn psychology more actively, especially the ability to apply psychology in solving practical occupational problems has been significantly improved. That helps us to have a perfect basis, synchronize subject teaching objectives, contents and methods associated with vocational training objectives towards meeting the established output standards according to the CDIO approach.

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