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Practicing the Sensitivity of Social Life to Chemical Engineering Students Through Cooperative Learning

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Abstract. Students from several regions of Indonesia who come to study in Surabaya encounter new challenges in their academic life, which are not easy to deal with. In order to be ready to face these challenges, they need to be equipped with values for social life (such as teamwork) so that they are able to survive in their academic and social life. Acombined cooperative learning and jigsaw method conducted in Thermodynamics 1 Class was meant to cultivate positive values of teamwork such as positive interdependence and individual accountability. Participants (N = 58) were Thermodynamics 1 class, which was divided into 15 groups to work on class assignments and laboratory projects. The enthusiasms of the students in class were shown by 89% minimum attendance of each activity.About 61% of the students reached their individual mid-term targets, showing a 10% increase if compared to the preceding semester result.

Keywords: social life, cooperative learning, jigsaw methods.

Abstrak. Mahasiswa dari berbagai daerah di Indonesia yang belajar di Surabaya menghadapi tantangan baru yang tak mudah diatasi dalam kehidupan akademiknya. Agar siap menghadapi beraneka tantangan tersebut, mereka perlu dilengkapi dengan nilai-nilai kehidupan sosial (seperti kerja sama) sehingga mereka mampu bertahan dalam kehidupan akademik dan sosialnya. Sebuah kombinasi metode pembelajaran kooperatif dan *jigsaw* diterapkan pada kelas Termodinamika 1 untuk menumbuhkan nilai-nilai positif kerja sama seperti kesaling- tergantungan yang positif dan akuntabilitas pribadi. Peserta (N = 58) adalah kelas Termodinamika 1, yang dibagi menjadi 15 kelompok untuk menyelesaikan tugas-tugas kelas dan proyek laboratorium. Antusiasme para mahasiswa dalam kelas tercermin dari miniumum kehadiran yang 89% pada tiap aktivitas. Sekitar 61% mahasiswa mencapai target UTSnya, menujukkan kenaikan 10% bila dibandingkan dengan hasil semester sebelumnya.

Kata kunci: kehidupan sosial, pembelajaran kooperatif, metode *jigsaw*

Generally, Chemical Engineering students at the University of Surabaya (Ubaya) come from several regions of Indonesia. Since they come from different regions of Indonesia, they must adapt in such a way to the new environment in order to survive in their academic and social life. Therefore, the students, in order to be ready to face these challenges, need to be equipped with values for social life (such as teamwork) so that they are able to survive in their academic and social life.

The various characteristics of students reflected in their learning behavior include their learning style and adversity quotient.The data of learning style and adversity quotient of Chemical Engineering students at Ubaya are shown in Figure 1. The learning styles of students have strong influence on the success of the learning processes in class. Sometimes there are differences between the teaching styles of the lecturer and the learning styles of the students.

According to Felder and Brent (2005), most undergraduate students are sensing learners who focus on external inputs such as seeing, hearing, tasting, and touching while most lecturers are intuitive learners who emphasize on fundamentals, theories, and mathematical models.This shows the mismatch between the teaching style and learning style of most students that cause many students unable to

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