Learning Practices in a Higher Learning Institute in United States

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Abstract

This study is an attempt to assess the level of learning practices among undergraduate and postgraduate students in a higher learning institute in the United States. The sample population comprised 181 undergraduate and postgraduate students and 22 instructors from the School of Education. Questionnaires using a 6 point Likert-scale were administered to all 203 respondents whilst interviews were conducted with 5 undergraduates, postgraduates and instructors. In addition, document analysis was also conducted on the syllabus used for the 12 courses. Descriptive analysis indicated that most of the learning practices (dimensions or overall) recorded above moderate level in higher education. Overall, students exhibited high levels of learning obligation, but moderate levels of learning effort and collaboration in learning. Therefore, in an effort to raise the current level of effort and collaboration in learning among the students might entail increasing the scores on each dimension of the two main aspects of learning practices appropriately. More efforts have to be considered to increase the levels of learning effort and collaboration in learning among the students. This suggestion is made on the basis that takes into consideration that these two dimensions were found to be experienced at a relatively lower level than the dimension of learning obligation. This observation informs us that steps need to be taken when planning intervention programs to raise the overall level of learning effort and collaboration in learning among students in higher education.

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1. Introduction

The emergence of discourse around teaching and learning is one of the most remarkable phenomena in the last decade in higher education. It is undeniably true that every higher education institution wants to boast ‘high quality learning’ in its institutions. However, it is less than obvious that institutions are either clear about

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what these goals mean or actually pursuing these goals with strategic vision. In most cases neither of these key goals is well defined: what is an excellent learning and what constitutes a high quality of learning practices? According to D’Andrea & Gosling (2005:1), the manner in which institutions are attempting to achieve these goals is many and varied. He stressed in order to turn the high quality learning into reality are seen as improvements to the teaching and learning in education. D’Andrea & Gosling (2005:25) further elaborate that active learning, deep learning, problem-based learning, student-centered learning and work-related learning are parts of learning that contributes to the high quality learning in higher education. Improving high quality learning involves careful development strategies and therefore thorough investigation in learning need to be conducted in higher learning institutions.

2. Literature Review

2.1. Conception of Learning

According to Howe (1998), learning at all levels requires active mental processing of information, the making of meaningful connections between ideas, repetition, practice and memorization. Thus, learning involves both transforming and reproducing new material. Furthermore, thinking about learning involves not only understanding what learning is, but also how one might go about doing it and why one might do it. In line with this, Entwistle and Peterson (2004) outlined five hierarchical conceptions of learning. These were placed from the least to the most sophisticated: (1) acquiring factual information, (2) memorizing what has to be learned, (3) applying and using knowledge, (4) understanding what has been learned, and (5) seeing things in a different way. The lower class of conception has been described as quantitative, surface, or reproducing since an increase in the quantity of remembered material is presented or reproduced on demand. The reproducing conceptions of learning have been classified as remembering things, getting facts or details and applying information (Howe, 1998:10). The surface approach to learning involves making explicit to learners who practice a set of learning skills or strategies such as underlining, note taking, or mnemonics. Thus, the reproducing class involves remembering materials as accurately as it was presented in a very efficient manner. In contrast, the higher class of conception has been labelled as qualitative, deep, transforming, reconstructive, or seeking meaning. In short, Marton restates that the transforming conception and deep approach to ‘learning as being a qualitative change in one’s way of understanding some aspect of reality’ (1988:291). This conception involves understanding new material for oneself without reference to rewards, perceiving or understanding things in a different and meaningful way, and developing or changing as a person. The deep intention is achieved by strategies that involve transforming information and integrating it into pre-existing understanding. So, the transforming class of conceptions involve making sense of or understanding new material as fully as possible. However, we have to understand that surface reproduction is a necessary precursor stage for deep transformation. It is commonly believed that deep approaches to learning are best for ensuring understanding and higher academic performance, while surface approaches are associated with lower academic performance.

2.2. Active Learning

According to Rahiman (1998), the lack of soft skills amongst Malaysian undergraduates is partly attributed to the “rote learning” style adopted by Malaysian school children (Ahmad, 1998). Therefore, Malaysian educators are starting to recognize the important of engaging students in an active learning activities rather than the passive one. Western countries already realized the important of active learning where throughout the 1980s, numerous leaders in the field of higher education (Cross, 1987) and a series of national reports (Study Group, 1984) repeatedly urged college and university faculty to actively involve and engage students in the process of learning. Consequently, many faculty assert that all learning is inherently active and that students are therefore, actively involved while listening to formal presentations in the classroom (Bonwell & Eison, 1991: iii). Analysis of research literature (Chickering & Gamson, 1987), however, suggests that students must do more than just listen.
They must read, write, discuss, or be engaged in solving problems. One response to these questions is found in the observation that:

Students learn both passively and actively. Passive learning takes place when students take on the role of “receptacles of knowledge”; that is, they do not directly participate in the learning process... Active learning is more likely to take place when students are doing something besides listening (Ryan & Gretchen, 1989: 20).

Increased activity would include making a sustained effort to take exemplary nonliteral, paraphrased lecture notes, monitoring one’s level of understanding the subject matter and writing questions in the lecture notes when confused, and asking questions at appropriate points in an instructor’s presentation. Students’ involvement can be further increased by the instructor’s use of such strategies as using discussion-leading and questioning techniques skillfully to engage students in a personal exploration of the subject matter, having students engage in short writing activities in class followed by sharing what they have written in small groups, and using presentations, debates, and role-playing activities by students (Bonwell & Eison, 1991: 2). More importantly, to be actively involved, students must engage in higher-order thinking tasks as analysis, synthesis, and evaluation. Within this context, it is proposed that strategies promoting active learning be defined as instructional activities involving students in doing things and thinking about what they are doing (Bonwell & Eison, 1991: iii). Though the term “active learning” has never been precisely defined in educational literature, some general characteristics are commonly associated with the use of strategies promoting active learning in the classroom (Bonwell & Eison, 1991:2):

- Students are involved in more than listening;
- Less emphasis is placed on transmitting information and more on developing students’ skills;
- Students are involved in higher-order thinking (analysis, synthesis, evaluation);
- Students are engaged in activities (e.g. reading, discussing, writing) and
- Greater emphasis is placed on students’ exploration of their own attitudes and values.

Another study by Bonwell & Eison (1991) has also shown that students prefer strategies promoting active learning to traditional lectures. Other research studies evaluating students’ achievement have demonstrated that many strategies promoting active learning are comparable to lectures in promoting the mastery of content but superior to lectures in promoting the development of students’ skills in thinking and writing. Further, some cognitive research has shown that a significant number of individuals have learning styles best served by pedagogical techniques other than lecturing. Therefore, a thoughtful and scholarly approach to skillful teaching requires that faculty become knowledgeable about the many ways strategies promoting active learning have been successfully used across the disciplines. In other words, each faculty member should engage in self-reflection, exploring his or her personal willingness to experiment with alternative approaches to instruction (Bonwell & Eison, 1991:iii-iv).

2.3. Cooperative Learning and Collaboration in Learning

According to (Holt & Kysilka, 2006: 172), cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other’s learning. Cooperative learning can be used in tutoring and coaching situations. The learners work in small groups (face-to-face or online) on an assigned project or problem under the guidance of a trainer or expert who monitors the groups, ensuring learners stay on task, and are able to provide correct answers. Throughout history, individuals who could organize and coordinate their efforts to achieve a common purpose have succeeded by using the ideas of cooperative learning. However, simply placing students in groups and telling them to work together does not guarantee the competence needed for cooperation (Holt & Kysilka, 2006: 169).

Cooperative learning can be employed at any grade level and in any content area. In fact, most formal cooperative learning structures can be used successfully with students age six through adult. Within a classroom, the teacher may use both informal and formal groups. A formal group is given an assignment to complete and stays together for specified period of time, usually dictated by the topic under investigation, such as a unit of
study lasting one or more weeks. An informal group is given an assignment for a short discussion task and may stay together for only a few minutes or one class period. Another group structure is base groups, which are long-term groups whose purpose is primarily to provide peer support and accountability. Such groups stay together for at least one week (Holt & Kysilka, 2006: 169). The effectiveness of cooperative learning has been proven by research. Study conducted by Neo (2005) at one of private university in Malaysia, showed that cooperative learning has received encourage and positive reaction from students. Study conducted at Universiti Teknologi Malaysia (UTM) also found out that the students showed more positive attitude when cooperative learning was being implemented where they eager to attend classes and participate actively in class discussion (Mimi Haryani, Mohd. Kamarudding, Mohd. Ariffin, Khairiyah, Syed Ahmad Helmi and Mazlina, 2004). According to research (Treicher, 1967: Lyons, Kysilka & Pawlas, 1999), we learn:

- 10% of what we read
- 20% of what we hear
- 30% of what we see
- 50% of what we see and hear
- 70% of what we discuss with others
- 80% of what we personally experience
- 90% of what we teach to someone else

It is clear that the goals of cooperative learning are twofold: to enhance students’ learning and to develop students’ social skills such as decision making, conflict management, and communication. To achieve these goals, proponents have over the past two decades developed classroom strategies that emphasize small groups of students working together in a structured process to solve academic tasks. The duration of the project can be anywhere from one class period to a whole semester. Although cooperative learning has been employed primarily in kindergarten through grade 12 in the past, it has recently gained interest in colleges and universities (Cooper, 1990). To support this position, one study at a university showed that students working cooperatively in a structured process significantly increased the accuracy of their short-term recall answers over students working individually using their own study methods. The use of structured study also had a small but significant transfer effect on subsequent individual performance (Lambiotte et. al., 1987). Even though if there were no significant difference in achievement between cooperative learning techniques and traditional methods, many would argue persuasively that the other benefits of cooperative learning justify its use. For instance, when one professor switched from lecturing to a cooperative classroom, an absentee rate that had been nearly fifty percent fell to only one percent. Similarly, studies have shown that cooperative learning has strong positive effects on race relations, self-esteem, and a willingness to cooperate in other settings (Slavin, 1983). Given these characteristics, it would appear that cooperative learning is a strategy that might appeal to many professors; it certainly warrants further research in a university setting (Bonwell & Eison, 1991:45).

According to Wikipedia (2010), collaboration is a recursive process where two or more people or organizations work together to realise shared goals (this is more than the intersection of common goals seen in co-operative ventures, but a deep, collective, determination to reach an identical objective). For example, an intellectual endeavor that is creative in nature as in sharing knowledge, learning and building consensus. It has been noted that most collaboration requires leadership, although the form of leadership can be social within a decentralized and egalitarian group. In particular, teams that work collaboratively can obtain greater resources, recognition and reward when facing competition for finite resources. Collaboration is also present in opposing goals exhibiting the notion of adversarial collaboration, though this is not a common case for using the word. Structured methods of collaboration encourage introspection of behavior and communication. These methods specifically aim to increase the success of teams as they engage in collaborative problem solving. Forms, rubrics, charts and graphs are useful in these situations to objectively document personal traits with the goal of improving performance in current and future projects. Collaborative Learning is quite similar to cooperative learning in that the learners work together in small teams to increase their chance of deeper learning (Clark, 2004). However, it is
a more radical departure from cooperative learning in that there is not necessarily a known answer. For example, trying to answer: "how effective is e-learning?" would be collaborative learning as there is a wide range of possibilities to this question, depending upon the learners' perspectives. This is simply because the collaboration sometimes results from less purposeful and focused activities where some of the learning will be unintentional. Participating in collaborative learning allows students to be critical in their thinking where according to Gokhale (1995) students who participated in collaborative learning performed significantly better on critical thinking than students who studied individually. Realizing the importance of collaborative learning Malaysian education is starting to promote collaborative learning in Malaysian education. Anis Maesin (2006) in her study on a group of UiTM students found out that student regardless from urban or rural areas equally preferred collaborative learning.

3. The study

This study employed a descriptive research approach to explore learning practices in higher education. Two groups of respondents were involved in the survey. The group comprised undergraduate and postgraduate students from a school of education in a public university in United States. The first group comprised undergraduate and postgraduate students whilst the second group comprised the instructors. A total of 181 students and 22 instructors were randomly selected to answer the questionnaires. Two sets of research questionnaires were used, one set for the instructor and the other for the student respondents. Besides that 5 instructors and 5 students were interviewed to gain their feedback regarding with learning practices in higher education. The learning practices components were adapted from the Nine Principles Guiding Teaching and Learning from the University of Melbourne (2007), and FAST Project AEQ Questionnaire from the Higher Education Academy, United Kingdom. Six point Likert-scale were developed by the researcher. The questionnaire consists of the three main components: Learning Obligation (LO), Learning Effort (LE) and Collaboration in Learning (CL). LO used to gather information in relation to the learning obligation of students with respect to the 10 dimensions (components). LE was used to further information in relation to the learning effort of the students with respect to eight dimensions (components). CL was used to gather information in relation to students’ involvement in collaboration in learning. However, teaching practices in this study is a gestalt of 10 practices adapted from the Nine Principles Guiding Teaching and Learning formulated by a team of researchers at University of Melbourne. Descriptive statistical analysis procedures (or techniques) were used to answer the intended research questions which are:

1) What is the level of learning practices in higher education in United States?
2) What is the level of learning obligation in higher education in United States?
3) What is the level of learning effort in higher education in United States?
4) What is the level of collaboration in learning in higher education in United States?

4. Result

The Learning Practices composite construct reflects the extent, or degree of practices in three different dimensions namely Learning Obligation (LO), Learning Effort (LE) and Collaboration in Learning (CL) as perceived by respondents. As depicted in Table 1, a total of 133 respondents (65.5%) felt that the learning practices among students were at a moderate level. Another 44 respondents (21.7%) felt that learning practices were at the high level. Hence, these results showed that a majority of the respondents (87.2%) perceived the students’ learning to be at the moderate and high level. Only 26 respondents (12.8%) agreed that the student learning was at the high level. The mean value (3.59) for Learning Practices Overall indicated a moderate level of learning practices among students in higher education. Generally, the respondents were satisfied with their learning practices in higher education.
The Learning Obligation dimension was found to be mainly at the moderate level (65%). Results in Table 2 showed that only 27 respondents (less than 14%) of the respondents believed that students lacked commitment to do their studies well. Quite a substantial number of them (21.7%) seemed to agree that they have high obligation in handling their studies successfully. The mean value (4.07) for Learning Obligation score was high for the respondents, indicating that on average the respondents believed students possessed excellent levels of learning obligation to handle their study in higher education.

Findings in Table 3 indicated students demonstrated high obligation (mean > 4.00) in seven aspects namely respecting the viewpoints of others, receptive to new ideas, accepting responsibilities, respect authorship of ideas, actively participate in discussion and debate, tolerate with complexity and ambiguity, and collaborate with other students in learning. However, the respondents only stated moderate level of learning obligation (mean=3.00 – 4.00) in the other three variables namely comply with undergraduate / postgraduate attributes, providing feedback to instructor, and providing feedback to the university.

In the Learning Effort dimension, more than one third of the respondents (35%) seem to report low level of learning effort in their study. On the other hand, 60.6 percent of the respondents reported moderate level of learning effort and only a small portion (4.4%) reported high level of learning effort. Data in Table 4 seem to suggest that there is variation among the students in terms of the scores for the Learning Effort dimension. The
mean value for the total score of LE was 3.26. This seems to signal that overall the respondents agreed to the moderate level of learning effort among students in the university.

Table 4. Levels of Learning Effort Dimension

| Score on Learning Effort         | Frequency | Percent |
|---------------------------------|-----------|---------|
| Low (less than 3.00)            | 71        | 35.0    |
| Moderate (3.00 – 4.00)          | 123       | 60.6    |
| High (more than 4.00)           | 9         | 4.4     |
| Total                           | 203       | 100.0   |
| Mean : 3.26                     |           |         |
| SD : .511                       | Min : 2.00|         |
|                                 | Max : 5.00|         |

As depicted in Table 5, generally, respondents reacted moderately with certain items such as putting in more hours when assignments are due, enjoy assignments which demand critical thinking and problem solving, to be selective in their study, and study regularly. Interestingly, low mean scores were reported on negative items such as only study things to be covered in the assignments, do the same amount of work all the time, do well without studying and do not like field work indicated that respondents were careful and were not misled by negative items when giving responses.

Table 5. Learning Effort

| Learning Effort                                                                 | N   | Min | Max | Mean | Std. Deviation |
|---------------------------------------------------------------------------------|-----|-----|-----|------|----------------|
| In weeks when the assignments are due I put in more hours                        | 203 | 0   | 5   | 3.86 | .898           |
| I enjoy assignments which demand critical thinking and problem solving           | 203 | 0   | 5   | 3.85 | .932           |
| I can be quite selective about what I study and learn and still do well          | 203 | 1   | 5   | 3.39 | 1.001          |
| I have to study regularly if I want to do well on the course                    | 203 | 0   | 5   | 3.23 | 1.111          |
| I only study things that are going to be covered in the assignments              | 203 | 0   | 5   | 2.82 | 1.226          |
| I do the same amount of study each week, regardless of whether an assignment is due or not | 203 | 1   | 5   | 2.80 | 1.232          |
| On this course, it is possible to do quite well without studying much            | 203 | 0   | 5   | 2.61 | 1.453          |
| I do not like assignments that require field work and authentic evidence         | 203 | 0   | 5   | 2.09 | 1.317          |

Data in Table 6 seems to suggest that the variation among the respondents in terms of overall scores for the Collaboration in Learning is fairly wide. This is indicated by a range value of 5 as well as a relatively high standard deviation score (SD=1.139). On the Collaboration in Learning dimension almost half of the respondents (42.4%) were not interested with the concept of Collaboration in Learning. The findings indicated that 41.9 percent stated moderate level of Collaboration in Learning, and 15.8 percent indicated high favour of Collaboration in Learning. Possibly the respondents can be classified as generally acquainted (M=3.45, SD=1.139) with the Collaboration in Learning.

Table 6. Levels of Collaboration in Learning Dimension

| Score on Collaboration in Learning       | Frequency | Percent |
|------------------------------------------|-----------|---------|
| Low (less than 3.00)                     | 86        | 42.4    |
| Moderate (3.00 – 4.00)                   | 85        | 41.9    |
| High (more than 4.00)                    | 32        | 15.8    |
| Total                                    | 203       | 100.0   |
| Mean: 3.45                               |           |         |
| SD : 1.139                               | Min: 0.00 |         |
|                                          | Max: 5.00 |         |

As indicated in Table 7, respondents agree to have opportunity to work with other students in the class, and felt the spirit of cooperation in the university, and the department. However, respondents reported uncertain answers relating to spirit of cooperation and opportunity for ideas exchanged within their study team. Based on the interview data, postgraduate students held less preference on collaboration in learning than undergraduate students. Respondents also indicated that neutral answers in three different aspects in the survey namely whether
their assignments require them to work collaboratively with individuals; coordinate its effort with appropriate individuals and teams; and also apply problem solving techniques in their study team.

Table 7. Collaborative in Learning

| Collaboration in Learning                                                                 | N  | Min | Max | Mean  | Std. Deviation |
|-------------------------------------------------------------------------------------------|----|-----|-----|-------|----------------|
| I have an opportunity to work jointly with other students in the class                    | 203| 0   | 5   | 3.96  | 1.189          |
| There is a spirit of cooperation at this university                                        | 203| 0   | 5   | 3.62  | 1.206          |
| A spirit of cooperation exists in my department / Faculty                                  | 203| 0   | 5   | 3.54  | 1.500          |
| There is an opportunity for all ideas to be exchanged within my study team                 | 203| 0   | 5   | 3.37  | 1.643          |
| My assignment requires me to work collaboratively with individuals                         | 203| 0   | 5   | 3.35  | 1.436          |
| There is a spirit of cooperation within my study team                                      | 203| 0   | 5   | 3.27  | 1.796          |
| My study team coordinates its effort with appropriate individuals and teams                | 203| 0   | 5   | 3.24  | 1.708          |
| atmosphere of intellectual excitement                                                    | 203| 0   | 5   | 3.05  | 1.640          |
| My primary study team uses problem-solving technique                                       | 203| 0   | 5   | 3.05  | 1.640          |

5. Discussions and conclusion

Assessment of student learning, including tests, portfolios, projects, papers, and performances, provide information on how well the institution has achieved its goals for student learning, which are the key goals of most institutions of higher education (Suskie, 2006:24-25). Since any one assessment strategy has inherent imperfections, the best evidence of student learning comes from multiple sources (Suskie, 2006:24-25). Based on document analysis of the course syllabus from 12 courses, it was identified that multiple forms of assessment had been integrated in the assessment of student learning. Multiple forms of assessment comprised case study, short essay, project paper, seminar paper, presentation, portfolio and quiz were listed as assessment modes for most of the courses. However, final exam was only noticed in a postgraduate course relating to educational assessment. This finding indicated that formative assessment has been widely used in the undergraduate and postgraduate courses in the School of Education as proposed by Black & William (1998) and Popham (2010) to enhance transformative learning and active learning in higher education. The CHEA Institute for Research and Study of Accreditation and Quality Assurance also notes that “evidence of student learning can take many forms, but should involve direct examination of student performance either for individual students or for representative samples of students” (Suskie, 2006:24-25). The below excerpt by Middle States Commission on Higher Education clearly explains (Suskie, 2006: 24-25):

Suitable assessment measures . . . include direct – clear, visible, and convincing – evidence of student learning. Tangible examples of student learning, such as completed tests, assignments, projects, portfolios, licensure examinations, and field experience evaluations, are direct evidence of student learning. Indirect evidence, including retention, graduation, and placement rates and surveys of students and alumni, can be vital to understanding the teaching-learning process and student success (or lack thereof), but such information alone is insufficient evidence of student learning unless accompanied by direct evidence. Grades alone are indirect evidence, as a sceptic might claim that high grades are solely the result of lax standards. But the assignments and evaluations that form the bases for grades can be direct evidence if they are accompanied by clear evaluation criteria that have a demonstrable relationship to key learning goals.

However, in this study, the researcher did not intend to measure learning outcomes. Hence, the use of the intangible output such as learning obligation, learning effort and collaboration in learning to gauge the levels of learning practices among undergraduate and postgraduate students was deemed appropriate. Historically, faculty members have relied on passive instructional methods (e.g. lecturing) instead of “active learning where students solve problems, answer and formulate questions of their own, discuss, explain, debate, or brainstorm during class, and indulge in cooperative learning where students work in teams on problems and projects under conditions that assume both positive interdependence and individual accountability” (Dugan & Hernon, 2006:8). Since this
study was conducted in a renowned research university in the United States, it is not surprising to observe that students demonstrated high levels of learning obligation, learning effort and collaboration in their course. The students in this study also reported that they respected the viewpoints of others and they were receptive to new ideas (mean > 4). The students also stated in the questionnaires that they accepted the responsibility to move towards intellectual independence and on most of the occasions they needed to self-reflect on their work. However, undergraduates and postgraduates differed in their perceptions towards collaboration in learning. Postgraduate students showed less preference on collaboration in learning than undergraduate students. This scenario may be due to the nature of postgraduate programs which places more emphasis on autonomous learning. The high level of agreement among students on these items indicated that active learning had been practised widely in the School of Education. The identification of active learning does have a positive impact on student learning. Hence, numerous researchers have described clearly the need for active learning in the classroom:

Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experience, apply it to their daily lives. They must make what they learn part of themselves (Chickering & Gamson, 1987:3).

When students are actively involved in . . . learning . . ., they learn more than when they are passive recipients of instruction (Cross, 1987:4).

Students learn by becoming involved . . . Student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience (Astin, 1985:133-34).

Ruth Sutton also writes that “I’d like to be able to say that my conviction about the usefulness of student involvement in assessment sprang from my knowledge of the research findings on the issue, but I confess that it didn’t. First and foremost, I believe in involving learners in the assessment process because I myself have found it useful and effective” (1995:131). In Sutton’s case, she explains that her conviction is really based on her assumption that teachers should be encouraging learners to become autonomous, and that this will not be achieved merely by wishing it so (Sutton, 1995:132). She then lists six further assumptions about what she considers to be the preconditions for successful independent learning (Sutton, 1995:132):

- The learner believes he/she is capable of learning;
- She knows enough about herself to set learning targets within her extended grasp;
- He is willing to make the effort and commitment;
- She is aware of different ways of tackling a learning task, and able to make good decisions depending on circumstances and
- She is not afraid of failure and knows how to learn from it.

In another case, Morton (1999:3) in an observation study with 34 fifth graders of an exemplary classroom where active learning was taking place identified that the classroom was a place where all students were involved in meaningful curriculum, and learning was a realized goal for all. With the result of high level learning obligation and moderate levels of learning effort and collaboration in learning identified among the students in the classroom, the researcher believes that active learning had been implemented successfully in the classrooms at the School of Education.
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