



TEACHERS' EVALUATION OF STUDENT-CENTERED LEARNING ENVIRONMENTS

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ABSTRACT

The student-centered teaching is the arrangement of the teaching experience focusing on the students' responsibilities and activities in the learning process which takes into consideration the students' interests, demands and needs. According to this approach, while teaching experiences are planned, different learning strategies and styles of students are taken into account. A student who can reach information is more valuable than the one who memorizes it.

The Aim of Study: *The aim of this study is to determine teachers' evaluations of their own classes in terms of the student-centered learning environment dimensions of time, place and infrastructure, psycho-social aspect.*

Methods: *The research is descriptive in design. In this study, a data collection instrument was used that lends itself for teachers to evaluate their classes in terms of the dimensions of student-centered learning; namely time, place, infrastructure and psycho-social.*

Findings: *Teachers' evaluations of student-centered learning environments in relation to different variables highlight that teaching area is an effective factor putting elementary school teaching at an advantage in terms of scores. Teachers, when asked to evaluate the dimensions of student-centered learning environments; have given the highest score to psycho-social dimension, followed by time, equipment and place dimensions.*

Conclusions and Discussion: *Based on the results of the study, the following suggestions are made. Teachers, while determining on educational models and approaches in their teaching-learning process, should ensure that it allows students to learn on their own. Within the school and class context, teachers should allocate time for activities that increase student-centered learning, individual and social activities like extra-curricular activities, student club activities. Teachers should be offered chances of in-service training so that they can improve their skills and gain knowledge about student-centered learning with respect to their teaching areas.*

KEYWORDS: *Learning environment, student-centered education, student-centered teaching/learning, learning environment dimensions*

INTRODUCTION

The concept of student-centered education has led to perceptual changes in relation to education, learning and teaching. In student-centered teaching, at the stages of decision making, planning, application, and evaluation during the teaching-learning process learners participate in the process willingly, showing interest with determination. It can be said that student-centered teaching has brought about the change in questions from "What should we teach?", "How should we teach?", "With what should we teach?" to a perspective where "What would s/he like to learn?", "What will s/he do to learn?", "What would assist him/her in his/her learning?", "To what extent did s/he learn?" In

other words, in student-centered teaching learners actively participate in the decision making process about what to learn, how to learn, and what kind of help is required, and how to decide how much is learned¹.

For over 100 years, philosophers such as John Dewey, Lev Vygotsky, Jean Piaget, Jerome Bruner, Ferriere, Rousseau, Freinet, Howard Gardner, Gianni Rodari, Bruno Ciari, Maria

¹ Burge, E. J. (1988). Gender in distance education. In: C.C. Gibson, Editor, *Distance learners in higher education*. Madison, WI: Atwood Publishing,



Montessori and others have reported on the benefits of experiential, hands-on, student-centered learning. Involving learner in decision making and using student interest to drive curriculum and projects supports a growing body of evidence that concurs with these revolutionary philosophers. Learning is not only about knowledge making. Children need to be active learners within the context of culture, community, and past experiences. Teachers who adhere to student-centered classrooms are influenced strongly by constructivism, naturalistic, social constructivism, existentialism, humanism, and progressive philosophies.

Student-centered learning, or student centeredness, is a model which puts the student in the center of the learning process. Student-centered learning is a model in which students play an active role in their own learning styles and learning strategies. While learning, internal motivation is of vital importance. Individual systemizing is more important than standardized systems. Student-centered learning improves learning to learn and learning how to improve skills such as critical thinking, problem-solving and reflective thinking. Students apply and display different styles. Student-centered learning differs from teacher-centered learning in which it is characterized by the more active role of the learner when compared to the teacher.

Student-centered learning helps students to get their own goals for learning, and determine resources and activities guiding them to meet those goals (Jonassen, 2000). Because students pursue their own goals, all of their activities are meaningful to them. Student-centered learning which is based on experiential learning helps knowledge and skills to be grasped more extensively and permanently (Lont, 1999). Since both students and teachers participate in learning process, teachers are perceived to be a member of teaching environment and students to be the persons whose individual learning needs should be addressed. Thus, teachers by using more recent teaching methods involve students in learning process more actively. This improves and expands teachers' roles, which in turn contributes to team spirit and the culture of working together. The properties of student-centered teaching program were prepared as follows²:

² Jonassen, D.H. (2000). Revisiting activity theory as a framework for designing student-centered learning environments. In D.H. Jonassen & S.M. Land (Eds.), *Theoretical foundations of learning environments* (pp. 89-121). Mahwah, New Jersey: Lawrence Erlbaum Associates.

Lont, D. (1999). Using an intranet to facilitate

- emphasizes tasks that attract students' various interests,
- organizes content and activities around the subjects that are meaningful to the students,
- contains clear opportunities that let all students develop their own learning skills and progress to the next level of learning,
- contains activities that help students understand and improve their own viewpoints,
- allows for global, interdisciplinary, and complementary activities,
- supports challenging learning activities even if the learners find them difficult, and
- emphasizes activities that encourage students to work with other students in cooperation.

LEARNING ENVIRONMENT

Learning is a dynamic process during which individuals make internal adjustments individually and develop necessary skills. Thus, in order to enhance effectiveness of learning, the learning itself should be the starting point and other concepts, such as instruction and curriculum or teaching techniques, should be built on it. Learning is a process that takes place in mind. Individuals do not merely mechanically react to the internal and external stimuli without thinking. Yet, they develop their own knowledge and patterns of perception in interaction with stimuli that reaches the organism. They form a net of structures out of their interpretations, and they form meanings regarding different dimensions of their daily lives. Since knowledge is not a final product, and since it can be improved or changed they can perceive an event differently and they can develop different knowledge structures.

In student-centered learning, the teacher takes a more active role in learning rather than being the person in the center of knowledge. The student, rather than being passive, takes a role in the application, analysis, synthesis and evaluation processes. In learning, the factor of place is everywhere where learning takes place. The time factor shows differences with respect to the learning activity. In addition, in student-centered learning, technology is used in such a way that it realizes teacher- student and student-student interaction.

Kolb (1984) argues that active learning is acquired by individuals by doing more than thinking. According to Kolb, active learning can develop by thinking about the details of thoughts, experiences, perceptions, and emotions that come about during experiences. According to this, active

learner-centered learning. *Journal of Accounting Education*, 17(2-3), 293-320.



learning involves four stages of concrete experience (gaining experience): observation and reflection based on experience, forming abstract concepts, and new experiences. It is possible to participate in this cycle at any stage and follow the cycle in its logical order. Active learning takes place only when these four stages are materialized. Independently none of the stages constitutes active learning (Kolb, 2010).

Student-centered learning environments provide interactive, complimentary activities that enable individuals to address then- unique learning interests and needs, examine content at multiple levels of complexity, and deepen understanding (Hannafin, 1992). The concept of a learning environment is not new. Its roots can be traced to early apprenticeship. Socratic and similar movements that have sought to immerse individuals in authentic learning experiences, where the meaning of knowledge and skills are realistically embedded³.

Various learning environments can be classified according to the manner in which they manifest their underlying foundations. Hannafin and Land (1997) emphasize that educational environments have psychological, technological, cultural and pragmatic principles. All learning environments explicitly reflect these underlying models for foundations. Psychological principles take as the basis “the individuals’ knowledge and skill acquisition, organization and application”. In student- centered learning environments, students’ experience, content, and the construction of knowledge are important. Psychological foundations are rooted in beliefs about how individuals think and learn. Pedagogical principles take “activities, methods and the structure of learning environments” as their basis. For student-centered learning to take place, exemplifying, discovering, researching, and learning based on problem-solving are vital. Technological principles take “assistant technology and technology to enrich the learning environment” as their basis. In student-centered learning

environments, different tools can be implemented in various ways. Technological capabilities constrain or enhance types of learner-system transactions that are possible. Cultural principles highlight “social values such as researching, inventing, and critical thinking”. Student-centered learning environments support researching, discovering, and critical thinking. Pragmatic principles cover “economic conditions, technological facilities and the ability to reach innovations”. Pragmatic conditions define the limitations in implementation; for example, the financial situation. Five foundations are functionally integrated in learning systems designs.

Student-centered learning environments are set up in such a way that they give students the chance to take the responsibility for organizing, analyzing and synthesizing knowledge, and consequently play a more active role in their own learning (Means, 1994). These environments provide students with the opportunities of explaining complex problems and solve those in cooperation, and by applying to different sources (Hannafin & Land, 1997). This approach gives students the chance to take individual responsibility and adapt an active role in the teaching-learning process at the highest level. The mechanisms of self-confidence and self-control in individuals improve at a better rate⁴.

Student-centered teaching focuses on the student. Decision-making, organization and content are determined for most by taking individual students’ needs and interests into consideration. Student-centered teaching provides opportunities to develop students’ skills of transferring knowledge to other situations, triggering retention, and adapting a high motivation for learning. The active involvement of students helps them to construct knowledge.

STUDENT-CENTERED LEARNING ENVIRONMENT DIMENSIONS

In student-centered learning environments, it is essential that students takes responsibility for learning, they are directly involved in the discovery of knowledge, the materials used offer students a chance to activate their background knowledge, the activities done are based on problem solving, for cooperative learning to take place, the society, home and workplace are used as sources, and various institutions and outside-class

³ Hannafin, M.J. (1992). Emerging technologies, ISD and learning environments: Critical perspectives. *Educational Technology Research and Development*, 40(1), 49-63.

Hannafin, M.J., Hall, C., Land, S. M. & Hill, J. R. (1994). Learning in open ended environments: Assumptions, methods and implications. *Educational Technology*, 34(8), 48-55.

Hannafin M.J. and Land S.M. (1997). The foundations and assumptions of technology enhanced student-centered learning environments. *Instructional Science* 25(3), 167-202.

⁴ Land, S. M. & Hannafin, M. J. (1996). Student-centered learning environments: Foundations, assumptions and implications. ED 397 810.

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activities are in-cooperated to support students' learning. Time, place, infrastructure-hardware and psycho- social environment dimensions of the learning environment and the characteristics of these dimensions in student-centered learning environments are determined as follows:

TIME DIMENSION

Among the student-centered learning dimensions, it is the one which should have priority. Apart from sufficient time, it is also important that arrangements should be done for using time efficiently. Time has to be flexible so as to allow changes when necessary. The characteristics of the main five components of the time dimension can be listed as:

- For the effective use of time in terms of the psychological component, it is important to give students time to reach information, to construct it cognitively on their own, and to establish a connection between the acquired knowledge and real-life.
 - For the effective use of time in terms of the technological component, technology serving communicative purposes should be aimed at; the time used for communication should not be limited; and for students to have concrete experience, technology assisted time planning should be made.
- For the effective use of time in terms of the pedagogical component, students should be given time to acquire knowledge in natural settings, and flexible time plan to allow students to learn at their own pace.
- For the effective use of time in terms of the cultural component; time should be given so that students can research previous studies, inventions and products related to what is being learned. Time should be left for thorough learning, synthesizing, observing and applying what is learned to social life, work-life, family and society.
- For the effective use of time in terms of usefulness, time should be given to realize key learning-teaching conditions aimed at objectives. A time plan that allows individuals to fulfil their responsibilities and affects the effectiveness of both students and teachers positively should be made.

PLACE DIMENSION

It is the place where education or various studies take place. In student-centered education, place covers all the places where the student lives and engages in activities. This includes places such as school, schoolyard, library, museums, work-place and home. In student-centered education, these places are considered as the ones where real

learning takes place. Within this framework, the basic characteristics of place dimension needs to carry out with respect to the educational environment's basic components can be listed as follows:

- For effective use of place in terms of the psychological component, places should give students the opportunities for constructing their own knowledge, studying on their own, perceiving knowledge out of class-in, its real-life context, and guiding their learning according to their own individual characteristics.
- For effective use of place in terms of the technological component, places should ease communication, support learning visually, offer access to various information sources and be acoustically convenient.
- For effective use of place in terms of the pedagogical component, places should support natural learning, relate to students' individual interests, encourage students to exhibit their skills and products, and support the improvement of problem-solving skills. Places should be established in such a way that teachers and students can communicate comfortably, students can produce and observe their own products, perform group work and study in cooperation.
- For effective use of place in terms of cultural component, places should offer students the chance of seeing conducted research and inventions for gaining in-depth knowledge, taking the social structure into consideration and offering solutions to problems.
 - For effective use of place in terms of usefulness and places that should support students and teachers for reaching their goals.

INFRASTRUCTURE-HARDWARE DIMENSION

Educational tools, equipment and organizational skills form the infrastructure dimension. All factors related to equipment, which can be called educational technology, fall under this dimension. As regards student-centered learning, the infrastructure dimension has to exhibit the following characteristics in terms of the five main components:

- With respect to psychological component, the infrastructure has to provide students opportunities of establishing their own knowledge, recalling and activating their prior knowledge and experience, perceiving the natural context, realizing activities in line with their personal viewpoint and value judgments.
- With respect to technological component, the infrastructure has to be given which allows use



of developing technology, offers communication without giving any place for limitations, supports concrete learning with visuals and provides a variety of sources.

- With respect to pedagogical component, the infrastructure has to offer natural learning contexts, has to give students opportunity of putting together information from different times and areas. The infrastructure has to be arranged in such a way that students can realize their individual aims, interests and ideals, and teachers get the opportunity of guiding and interacting.
- With respect to cultural component, the infrastructure has to allow for students' in-depth learning.
- With respect to usefulness component, the infrastructure has to be established in such a way that it supports reaching targets and fulfilling responsibilities.

PSYCHO-SOCIAL DIMENSION

One of the main elements that form the learning environment is the psycho-social dimension. During learning process, the psycho-social environment is a main determiner in reaching objectives. Student-centered learning is mainly based on internal motivation. Therefore, student-centered learning environments offer context for students to learn their own by focusing on their wishes, expectations and interests. According to student-centered learning, the psycho-social dimension has to carry the following characteristics with respect to the five main components:

- In order to use the psycho-social dimension effectively in terms of the psychological component, the environment should allow students to teach on their own, support learners for gaining confidence and helping them to learn about themselves.
- In order to use the psycho-social dimension effectively in terms of the technological component, learning environment should be available so that students can, among themselves and with the teacher, have ongoing interaction.
 - In order to use the psycho-social dimension effectively in terms of the pedagogical component, the environment should be prepared in which it provides students take responsibility, fulfils natural, individual wishes and expectations, and increases their internal motivation.
- From the cultural perspective, the psycho-social dimension needs to include cultural values.
- For the usefulness of psycho-social dimension, the environment should raise students'

awareness of responsibility and give place to a feedback system.

The aim of this study is to reveal teachers' evaluations about giving place student-centered learning environments in their own schools within dimensions of time, place, infrastructure hardware and psycho-social environment. Within the framework of this general aim, the answers to the following research questions were sought;

1. What are teachers' evaluations about giving place to student-centered learning environments as a whole in their schools?
2. Do teachers' evaluations about giving place to student-centered learning environments in their schools show any difference according to independent variables (gender, teaching area, work experience, graduated higher education program)?
3. What are teachers' evaluations about giving place to student-centered learning environments when the dimensions of time, place, and infrastructure-hardware and psycho-social environment are taken distinctively?
4. Do teachers' evaluations about giving place to student-centered learning environments in their schools show any difference according to independent variables (gender, teaching area, work experience, graduated higher education program) when the dimensions are taken distinctively?

METHOD OF THE RESEARCH

In this study, data collection instrument providing to collect teachers' evaluations about giving place to student-centered learning environments in their schools with respect to time, place, infrastructure-hardware and psycho-social dimensions was used.

DATA COLLECTION INSTRUMENT

In the study, data collection instrument consists of two sections. The first section is composed of questions that elicits personal information related to the teachers; the second section is composed of the "Scale on Student-centered Learning Environments", which elicits teachers' evaluation of their own classes in terms of the student-centered education dimensions; namely time, place, infrastructure, and psycho-social.

ANALYSIS OF THE DATA

In the analysis of the data, beside to descriptive statistical techniques like arithmetical average and standard deviation, parametric statistical techniques of t-test for two group comparisons, and One-way Variance Analysis (ANOVA) for more than two group comparisons were used.



FINDINGS

This section consists of the findings as a result of the analysis of the data and discussions of the findings. Findings related to the research questions asked in relation to the aim of the study.

In order to get a general idea of the participant teachers related to student-centered learning environments, the arithmetical averages and standard deviations of the scores received from the scale have been calculated.

When the findings are analyzed, it can be said that the scores of participant teachers received from the Scale on Student-centered Learning Environments show a distribution like: 1.54 as the lowest score, 5.00 as the highest score, 3.43 as the average score. In this case, it is not wrong to say that the general tendency centers around “frequently” level. Student-centered education, having the basic characteristics of being flexible in time, motivating, highlighting student responsibility and individual differences, includes the training of individuals equipped with the skills of critical thinking, adapting to innovations, learning, and life-long learning ability. As classrooms change and become more student-centered, it is essential to provide teachers with opportunities that enhance their learning of different strategies. One strategy commonly seen in student-centered classrooms is use of learning centers.

Teachers’ evaluations about giving place student-centered learning environments in their schools show any difference according to independent variables

In this study, gender, teaching area, work experience, and graduated higher education programs are the independent variables. According to the findings, when average scores are considered based on 0.05 significance level, it can be observed that gender is not a significant factor regarding the participant teachers’ evaluations of student-centered learning environments. Teachers’ thoughts in terms of their evaluation of student-centered learning environments based on teaching area.

According to the findings, when average scores are considered based on 0.05 significance level, it can be observed that teaching area is a significant factor regarding the participant teachers’ evaluations of student-centered learning environments, and elementary school teaching exhibits a higher score level.

Student-centered learning environments comprise many forms, often with few apparent similarities. Isolated student-centered environments in science, mathematics, social science, literature, and other domains have prompted educators to explore the structure, goals,

and perspectives of student- centered systems. The efforts, however, often appear dissimilar in functions, goals, and features, thus making it difficult to identify general design principles. Despite such variations, common assumptions have been identified and re-manifested either explicitly within the environment⁵.

Presents results from a study of teaching and learning characteristics and the role of teachers in ICT (information and communication technology) learning environments of 25 technology-rich primary and secondary schools in five European countries. Results indicate that learning environments are more pupil-centered when there is greater curriculum differentiation and when teachers act as coaches⁶ (Smeets & Mooij, 2001).

Report results of a survey developed to assess the use of learner-centered techniques in undergraduate science and mathematics classrooms. It reveals that learner-centered techniques are used infrequently, but when used, they are applied to all aspects of teaching. It is suggested that federal funding has been slightly effective in promoting its use (Walczyk & Ramsey, 2003).

The Variance Analysis results based on the participant teachers’ evaluations of student-centered learning environments, the value is found as $F = 421$ ($P > 0.05$). Thus, it can be said that there is no meaningful difference when work experience is taken into consideration. Teachers’ distribution in terms of their evaluation of student-centered learning environments based on graduated program.

Teachers’ thoughts in terms of their evaluation of Student-centered Learning Environments based on the dimensions. In the study, teachers’ evaluations of their own classes regarding the following dimensions of student-centered education were considered: psycho-social/the school’s social atmosphere, infrastructure and equipment, place, time.

In order to get a general approximate idea of the participant teachers’ evaluations regarding student-centered learning environments, the arithmetical averages and standard deviations of the scores

⁵ Hannafin, M.J., Hall, C., Land, S. M. & Hill, J. R. (1994). Learning in open ended environments: Assumptions, methods and implications. *Educational Technology*, 34(8), 48-55.

⁶ Smeets, Ed. & Mooij, T. (2001). Pupil-cented learning, ICT, and teacher behaviour: Observations in educational practice. (EJ635530). *British Journal of Educational Technology*, 52(4), 403-17.



received from the scale have been calculated.

Research indicates that teachers who readily integrate technology into their instruction are more likely to possess constructivist teaching styles. Evidence suggests that teacher's student-centered beliefs about instruction and the nature of the teacher's technology-integrated lessons are paralleled with each other. This connection between the use of technology and constructivist pedagogy implies constructivist-minded teachers maintain dynamic student-centered classrooms where technology is a powerful learning tool. Unfortunately, much of the research to date has relied on self-reported data from teachers and this type of data often presents a less than accurate picture. Versus self-reported practices, direct observations that gauge the constructivist manner in which teachers integrate technology are more precise, albeit protracted, measured⁷.

Churchill (2006), in his study explores the private theories of four vocational education teachers in Singapore who have engaged in technology-based learning for their own classes. The understanding of teachers' private theories is important in the context of contemporary educational reforms, which emphasize the shift towards student-centered practices and technology integration. As teachers learn to change strategies and utilize technology, they might also need to transform aspects of their private theories that could impede effective technology integration and lead them to continue with outdated educational practice. This study aims to understand and explicate areas of private theories that impede the effective design of student-centered technology-based learning. The final outcome of the study was setting propositions for readers to examine for the possible application in their own environments⁸.

Numerous benefits of student-centered web-based learning environments have been documented in the literature; however the effects on student learning are questionable, particularly for low self-regulated learners primarily because these environments require students to exercise a high degree of self-regulation to succeed. Currently few guidelines exist on how college instructors should incorporate self-regulated

⁷ Judson, E. (2006). How teacher integrate technology and their beliefs about learning: Is there a connection? (EJ729639). *Journal of Technology and Teacher Education*, 14(3), 581-597.

⁸ Churchill, D. (2006). Teachers' private theories and their design of technology-based learning (EJ736364). *British Journal of Educational Technology*, 37(4) 559-576.

strategies using web-based pedagogical tools⁹.

Presenting a model for designing student-centered, technology-rich learning environments help educators to operationalize constructivist and student-centered approaches for teaching and learning. Highlights include facilitating knowledge construction and lifelong learning; technology use; student attitudes; levels of implementation; performance assessment; and traditional instructional systems design models.

In this study, gender, teaching area, work experience, and graduated higher education programs are the variables.

The two student-centered learning methods, concept checks and just-in-time teaching were tested. While both of the methods were found to be valuable for active participation of the student in his or her education, just-in-time was perhaps more effective as regards getting the student to prepare ahead of the next lecture and in the process getting better knowledge of the concerned topic.

The Variance Analysis result based on "Environments" shows that there is no relationship between learning dimensions and "Scale on Student-centered Learning work experience.

The Variance Analysis result based on the scores participant teachers' received in the "Scale on Student-centered Learning Environments" shows that there is no relationship between learning dimensions and the programs they graduated from.

CONCLUSIONS AND DISCUSSION

The following conclusions can be drawn from the findings of the study: It can be observed that the scores participant teachers received from the Scale on Student-centered Learning Environments shows an average score of 3.43. This corresponds to the label of "frequently", which reflects the participants' evaluation of the extent to which their classes possess features of student-centered learning.

It can be concluded that teachers' evaluations of student-centered learning environments do not show any significant differences based on different variables; namely gender, work experience, teaching area and graduated higher education program.

Teachers, when asked to evaluate the dimensions of student-centered learning environments, they have given the highest score in psycho-social dimension, followed by time,

⁹ Dabbagh, N. & Kitsantas, A. (2004). Supporting self-regulation in student-centered web-based learning environments (EJ723806). *Anastasia International Journal on E-Learning*, 5(1) 4047.



infrastructure/equipment and place dimensions.

Teachers' evaluations of student-centered learning environments in relation to different variables highlight that teaching area is an effective factor putting elementary school teaching at an advantage in terms of scores.

The evaluations of the participant teachers regarding different dimensions of student-based learning environments do not show any significant difference.

Student-centered learning environments evolved as a result of changing beliefs and assumptions related to the role of individual in learning. Based on the results of the study, following suggestions can be made. Student ownership for their goals and activities is essential for a student-centered approach. Because students make decisions about their work and take actions to meet their goals that are meaningful to them, which in turn encourages in depth understanding and intrinsic motivational orientation. Teachers, while determining on educational models and approaches in their teaching-learning process, should ensure that they allow students to learn on their own. Within the school and class context, teachers should allocate time for activities that increase student-centered learning, individual and social activities like extra-curricular activities, student club activities. Teachers should be offered opportunities of in-service training so that they can improve their skills, gain knowledge about student-centered learning with respect to their teaching areas and they should maintain the sustainability for following improvements and implementing these improvements.

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