A PRODUCTIVE LEARNING ENVIRONMENT: A BRIEF OVERVIEW

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ABSTRACT

This article presents a review that provides insight in the concept, characteristics, people involved, and purposes of a productive learning environment (PLE). As is expected, teaching and learning in a productive learning environment results in a student-centered learning, higher academic performance, and improvement of students' intrinsic motivation. Based upon review on research and non-research papers as well as books, results show that 1) goal-oriented learning, authentic and reality-based learning, motivating and engaging activities, active and supportive knowledge construction, self-regulated, and reflective are the components that characterize a PLE, 2) a PLE should be promoted collectively, and 3) a PLE is intended to improve both process and outcome of learning.

Key Words: Productive Learning,

1. Introduction

Since the last several decades, changes in the environmental situation and the development of science and technology in the era of globalization have resulted in high expectation for life skill competencies and life-long learning. Those changes have surely brought prominent impacts on educational practices. Educational organizations, such as schools and training centers, have begun improving the quality of their educational service, especially their instructional environment. In other words, they have made significant efforts to improve the quality of their learning environment in terms of a psycho-socially safe environment for active knowledge construction. In this regards, when educational programs do not satisfactorily meet students' needs, the learning environment is often re-evaluated.

Learning environments have long been discussed and studied and a large amount of research has been conducted in various contexts and countries (Aldridge & Fraser, 2000; Allen & Fraser, 2007; Allodi, 2010; den Brok, Telli, Cakiroglu, Taconis, & Tekkaya, 2010; Huang, 2003; Kangas, 2010; Majeed, Fraser, & Aldridge, 2002; Opolot-Okurut, 2010; Templeton & Johnson, 1998; Waxman & Huang, 1998). Most of which

were conducted with standardized questionnaires using one of the nine classroom environment instruments. Fraser (1998) summarized the nine instruments to assess student perceptions of classroom psychosocial environment: Learning Environment Inventory (LEI), Classroom Environment Scale (CES), Individualized Classroom Environment Questionnaire (ICEQ), My Class Inventory (MCI), College and University Classroom Environment Inventory (CUCEI), Questionnaire on Teacher Interaction (QTI), Science Laboratory Environment Inventory (SLEI), Constructivist Learning Environment Survey (CLES), and What Is Happening In This Class (WIHIC) questionnaire). However, there is none of the instruments available to evaluate a productive learning environment (PLE) because it is known and becomes a heated debate in last decade, therefore; there is no fixed construct to assess it.

The popularity for a productive learning environment has significantly increased due to at least two issues. Firstly, it is considered as one of the possible solutions to the failure of educational programs, especially when a product-oriented education was regarded as not fully successful in helping learners develop their academic performance (McCaslin, 2006). Secondly, technology, for it has changed human behavior of how people see a learning environment, results in a high expectation of a variety of learners' skills for lifelong learning in a changing labor market (Lillejord & Dysthe, 2008). With regard to those issues, many experts have tried to identify some features that contribute to the promotion of a productive learning environment based on their different viewpoints, ranging from a physical and psycho-social to a more complex learning characteristics. This paper will briefly describe the profile of a productive learning environment, particularly concerning its definition, characteristics, people involved and its purposes.

2. PLE Definition

The nature of what is meant by a productive learning environment (PLE) is complex and multifaceted and the term used for it suggests that there is no universal agreement among theoreticians and scholars about its definition. However, an examination of the various definitions of a productive learning environment reveals at least two common perspectives. One view assumes that a productive learning

environment is related to a psycho-social condition of learning: willingness, desire and curiosity, motivation, and interpersonal interaction in learning (Felner, M.Seitsinger, Brand, Burns, & Bolton, 2007; Kester, Kirschner, & Corbalan, 2007; Sharan & Tan, 2008; Stager, 2005; Wentzel, 1998), while the other view regards it as having an active knowledge construction through creative learning engagement (Felner, et al., 2007; Fjuk & Berge, 2005; Kester, et al., 2007; Stager, 2005). From these two perspectives, it can be concluded that a productive learning environment refers to a learning environment that promotes students' needs, curiosity, motivation, active learning engagement, and interpersonal interaction providing students with authentic learning tasks for a meaningful knowledge construction.

3. PLE Characteristics

The characteristics of a productive learning environment synthesized from theories in the literature that have been generally found to contribute to the promotion of a productive learning environment are:

- goal-oriented learning (Corte, 2000; Corte, Verschaffel, & Masui, 2004; Fiszer, 2004; Gerjets & Hesse, 2004; Silins & Mulford, 2004),
- authentic and reality-based learning (Ballantyne & Packer, 2009; Gerjets & Hesse, 2004; Sharan & Tan, 2008; Smeets, 2005),
- motivating and engaging activities (Ballantyne & Packer, 2009; Felner, et al., 2007; McCaslin, 2006; Sharan & Tan, 2008),
- active and supportive knowledge construction (Corte, 2000; Corte, et al., 2004; Deemer, 2004; Felner, et al., 2007; Finnan, Schnepel, & Anderson, 2003; Fiszer, 2004; Gerjets & Hesse, 2004; Silins & Mulford, 2004; Tan, 2010),
- self-regulated (Corte, 2000; Corte, et al., 2004), and
- reflective (Peltier, Hay, & Drago, 2005; Silins & Mulford, 2004; Smeets, 2005; Sugerman, Doherty, Garvey, & Glass, 2000).

These features could not be promoted in isolation, but in integration. One is not superior over the others, but they should complement one another. Because successfully establishing such environment is neither simple nor easy; several fundamental conditions which significantly characterize a productive learning environment should

favorably be considered and incorporated. In other words, an appropriate integration of those six characteristics mentioned above or partly in a classroom could facilitate the interactional features of a productive learning, which finally constructs the foundation of a productive learning environment.

Firstly, 'goal-oriented learning' is one criterion used to judge the productive learning environment (Corte, 2000; Corte, et al., 2004). Goal in educational context is defined as what students are expected to learn as a result of teaching (Anderson et al., 2001). G*oal-oriented* here refers to an explicit awareness of, and orientation toward a goal (Corte, et al., 2004). Teachers have a capacity to set clear instructional goals and or objectives which are usually included in an educational plan, the so-called formal curriculum, that should be achieved during certain period of time. So, all teachers, on the one hand, should be familiar with the goals and maintain similar perceptions to gain the same goals (Fiszer, 2004). Students, on the other hand, should also be well-informed and better understand what they have to achieve. In addition, teachers, for instance, have to teach students based on the goals, and students also learn on the basis of the intended goals to attain the desired outcomes, not inadvertently. In this concern, Shuell (1988) claimed that learning is most likely successful if learning participants are aware of the goals. This typical characteristics of learning environment is possibly crucial in promoting meaningful learning to help student learning become academically purposeful.

Secondly, along with the need to establish a goal-oriented learning for a productive learning environment, 'authentic and reality-based learning' should also be considered (Ballantyne & Packer, 2009; Gerjets & Hesse, 2004; Sharan & Tan, 2008; Smeets, 2005). Authentic learning environment refers to a context that reflects the way knowledge and skills will be used in real life (Gulikers, Bastiaens, & Martens, 2005), while reality based learning is characterized by: (1) the purpose of each activity is student learning, (2) the student is co-responsible for learning in each activity, (3) each activity draws on knowledge and skills beyond the classroom and discipline, and (4) transferability (Smith & Doren, 2004, p. 67). Both authentic environment and reality-based learning involve having students learn as real as possible. However, authenticity is more focused on a realistic context to an authentic task (Herrington & Oliver, 2000),

whereas reality based learning is a method which helps students learn as effectively and efficiently as possible (Smith & Doren, 2004).

The roles of teachers and students are very important in this context. In authentic classrooms, students are given more ownership over what they learn, and are required to integrate multiple contents and multiple skills holistically, and teachers become facilitators for student learning (Maina, 2004). It is obvious that this model of learning is a student-centered learning, and students should be well-prepared in terms of background knowledge. In this type of learning, students are not passive participants as what Freire (2005) referred it as "a banking concept of education": an approach to education in which students are viewed as empty accounts that have to be filled with knowledge by teachers.

These two learning conditions have long been acknowledged having their typical advantages. *Firstly*, authentic learning environment particularly has two benefits, namely cognitive ability and motivation as Gulikers, et al. (2005) contended that authentic learning environments expectedly contribute to students' cognitive ability and motivation. In line with Gulikers et al., Newmann and Wehlage (1993) have also developed the five standards of authentic instruction which they assumed helpful for teachers to facilitate an authentic instruction. Those standards are higher-order thinking, depth of knowledge, connectedness to the world beyond the classroom, substantive conversation, and social support for student achievement. From these standards, it can be assumed that higher-order thinking could be one possible cognitive benefit, and the others should apparently be motivational advantages. *Secondly*, according to Smith and Doren (2004), reality-based learning helps teachers create a classroom environment which is connected to the real world, and provides meaningful and relevant information.

Thirdly, another characteristic having a fundamental contribution to a productive learning environment is 'a motivating and engaging activities' (Ballantyne & Packer, 2009; Felner, et al., 2007; McCaslin, 2006; Sharan & Tan, 2008). McCaslin (2006, p. 6) stated that schools engender productive learning when students are motivated and engaged. Field (2008, p. 3) also argued that motivating environment for students to learn is important from the perspective of the provision of learning experiences that reach out and respond to the diverse range of students' learning styles and preferences.

Furthermore, Graf, Kinshuk, and Liu (2009), on the same tone with Field, emphasized the importance of understanding students' learning styles in planning and delivering lessons. In addition, Gardner (1999) identified and defined multiple intelligences (MI) which teachers should consider in addressing student learning motivation and engagement. From these ideas, it is clear that in order to create a motivating and engaging classroom, teachers should plan and design their instructions based on students' learning styles, preferences and multiple intelligences.

Fourthly, 'an active and supportive knowledge construction' appears to constitute a characteristic of a productive learning environment (PLE) (Corte, 2000; Corte, et al., 2004; Deemer, 2004; Felner, et al., 2007; Finnan, et al., 2003; Fiszer, 2004; Gerjets & Hesse, 2004; Silins & Mulford, 2004; Tan, 2010). This means learning is an effortful and mindful process in which students actively construct their knowledge and skills through reorganization of their already acquired mental structures in interaction with the environment (Corte, et al., 2004, p. 369). This characteristic has shown to be a critical feature of PLE as well as an essential element of problem-solving skills. Therefore, active and supportive knowledge construction can be recognized as an important characteristic for promoting PLE, supporting effective knowledge construction and, at the same time, building a supportive relationship with students.

Fifthly, 'self-regulated learning' is also another important characteristic of PLE. Most of definitions of this principle is based on the work of Zimmerman (1998; 1999), who defined and identified the characteristics of self-regulated learning. According to him, self-regulated students are those who are metacognitively, motivationally, and behaviourally active participants in their own learning (1999, p. 4). Moreover, Corte (2004), also described it as:

> the meta-cognitive nature of productive learning; indeed, self-regulation of learning means that students manage and monitor their own processes of knowledge building and skill acquisition. The more students become self-regulated, the more they assume control and agency over their own learning; consequently they become less dependent on external instructional support for performing those regulatory activities. (p. 369)

In general, self-regulated learning could enable students to be independently active learning participants for the acquisition and construction of knowledge. When students,

for example lack of *will* and *skill* to achieve goals academically, teachers can offer self-regulated learning processes (Zimmerman, 1999, p. 14).

Lastly, 'reflective learning' is not as simply as it is literally translated and understood because reflective learning, according to Peltier, Hay, and Drago (2005, p. 252), is therefore regarded as having relation with what has commonly been described as higher level learning. Boyd and Fales (1983, p. 100) defined reflective learning as the process of internally examining and exploring an issue of concern triggered by an experience, creating and clarifying meaning in terms of self and which results in a changed conceptual perspective. This process requires students to be carefully and critically reflective. As a result, careful reflection becomes integrated to the success of learning (Sugerman, et al., 2000). Silins and Mulford (2004) also maintained that supporting critical reflection is one dimension of high schools operating as learning organizations.

4. People contributing to the promotion of PLE

A productive learning environment cannot be promoted individually, but collectively. It needs high efforts and collaboration, and everyone has different roles for the establishment of such environment. According to Gallon, Housotter and Bryan (2005), a positive supervisory alliance (e.g., school supervisors) is an important part of a productive learning environment. Administrators and teachers are also responsible for generating a fair and equitable behavior management plan to maintain a productive learning environment (Fridell & Alexander, 2005). Others, such as principals, have also significant roles for promoting such environment (Finnigan, 2010). Since family cohesion is considered as a positive predictor of interest in school (Wentzel, 1998), parents who had higher expectations for their children's educational achievement were more likely to involve in all aspects of their children's educational activities than were parents who had lower expectations (Griffith, 2000). Other people who also contribute the success of PLE are stakeholders outside the school, community. Last, but not least, students who are the primary participants in an educational program, have also contribution to it, therefore; their participation and contribution for the promotion of

learning environment is highly required especially in the curriculum development (Ornstein & Hunkins, 1998).

In short, the people involved and contributing to PLE on the basis of their particular roles and contribution are schools supervisors, principals, administrators, teachers, students, parents, and stakeholders outside the school. Those people, according to Fiszer (2004), need to possess a sense of ownership to establish a collaborative culture for the promotion of a productive learning environment. Doolittle, Sudeck, and Rattigan (2008) commented that a learning community classroom functions in partnership with the entire school community, and also with stakeholders outside the school building (p. 305).

5. Purpose of PLE

A productive learning environment is meant to empower both the active process and the satisfactorily product or outcome of learning from an educational program offered. Since product-oriented, usually adopting behaviorism approach as discussed earlier, has been thought having less impact on students' performance (McCaslin, 2006), and process-oriented has also been criticized for its overly emphasis on learning process, an interactive model comes up to interact between both models. In this model, Lillejord and Dysthe (2008) suggested that the concept of a productive learning environment is to improve simultaneously both the learning process and the learning outcome. In other words, active learning process should be encouraged and learning outcome should also be a priority. Both aspects are interactively treated without ignoring or overly emphasizing one or the other. In conclusion, this interactive approach to instruction becomes the ultimate goal for the promotion of a productive learning environment.

6. Conclusion

The concept of a productive learning environment should not be limitedly understood because it is the representation of all effective components contributing to a successful educational program. The successful promotion of a PLE requires serious efforts in which all people involved should support one another for the betterment of learning environment. Although various types of learning environments have been studied extensively in recent years, little is still known about the productive learning environment. It is important to note that pre-established features of PLE have not been

found in the literature, particularly a standardized instrument-which has a fixed set of questions, a framework, and procedures for the administration-that can be used to evaluate a productive learning environment.

This paper is written from several perspectives on the promotion of productive learning environment, but the references used are not all based on research findings and this construct of PLE has never been tested and studied. It is rather an inquiry that needs further elaboration and research. Despite these limitations, the current review gives a brief overview of a productive learning environment, but it should not be considered as more or less scientific but rather as a portfolio that can help to create insight into the construct of and solutions for a productive learning environment. Finally, the results of this review could serve as a basis for new studies to enrich our knowledge about learning environment.

7. References

Aldridge, J., & Fraser, B. (2000). A cross-cultural study of classroom learning environments in Australia and Taiwan. *Learning Environments Research, 3*(2), 101-134. doi: 10.1023/a:1026599727439

Allen, D., & Fraser, B. (2007). Parent and student perceptions of classroom learning environment and its association with student outcomes. *Learning Environments Research, 10*(1), 67-82. doi: 10.1007/s10984-007-9018-z

Allodi, M. (2010). The meaning of social climate of learning environments: Some reasons why we do not care enough about it. *Learning Environments Research, 13*(2), 89-104. doi: 10.1007/s10984-010-9072-9

Anderson, L. W., Krathwohl, D. R., Airasian, P. W., Cruikshank, K. A., Mayer, R. E., Pintrich, P. R., . . . Wittrock, M. C. (Eds.). (2001). *A Taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Addison Wesley Longman, Inc.

Ballantyne, R., & Packer, J. (2009). Introducing a fifth pedagogy: Experience-based strategies for facilitating learning in natural environments. *Environmental Education Research, 15*(2), 243 - 262.

Boyd, E. M., & Fales, A. W. (1983). Reflective learning: Key to learning from experience. *Journal of Humanistic Psychology, 23*(2), 99-117. doi: 10.1177/0022167883232011

Corte, E. D. (2000). *High-powered learning communities: A European perspective*. Paper presented at the The First Conference of the Economic and Social Research Council's Research Programme on Teaching and Learning, Leicester, England. http://www.tlrp.org/acadpub/Corte2000.pdf

Corte, E. D., Verschaffel, L., & Masui, C. (2004). The CLIA-model: A framework for designing powerful learning environments for thinking and problem solving. *European Journal of Psychology of Education, 19*(4), 365-384. doi: 10.1007/BF03173216

Deemer, S. (2004). Classroom goal orientation in high school classrooms: Revealing links between teacher beliefs and classroom environments. *Educational Research, 46*(1), 73 - 90.

den Brok, P., Telli, S., Cakiroglu, J., Taconis, R., & Tekkaya, C. (2010). Learning environment profiles of Turkish secondary biology classrooms. *Learning Environments Research, 13*(3), 187-204. doi: 10.1007/s10984-010-9076-5

Doolittle, G., Sudeck, M., & Rattigan, P. (2008). Creating professional learning communities: The work of professional development schools. *Theory Into Practice, 47*(4), 303 - 310.

Felner, R. D., M.Seitsinger, A., Brand, S., Burns, A., & Bolton, N. (2007). Creating small learning communities: Lessons from the project on high-performing learning communities about "What Works" in creating productive, developmentally enhancing, learning contexts. *Educational Psychologist, 42*(4), 209 - 221.

Field, R. (2008). KIFT ALTC Senior Fellowship: Articulating a transition pedagogy. *Commentary on first year curriculum case studies: Engaging pedagogies perspective*, 1-7. Retrieved from http://www.altcexchange.edu.au/system/files/Field_Commentary_20Nov09_FIN.pdf

Finnan, C., Schnepel, K. C., & Anderson, L. W. (2003). Powerful learning environments: The critical link between school and classroom cultures. *Journal of Education for Students Placed at Risk (JESPAR), 8*(4), 391 - 418.

Finnigan, K. S. (2010). Principal leadership and teacher motivation under high-stakes accountability policies. *Leadership and Policy in Schools, 9*(2), 161 - 189.

Fiszer, E. P. (2004). *How teachers learn best: An ongoing professional development model*. United States of America: Scarecroweducation.

Fjuk, A., & Berge, O. (2005). Report on theoretical framework on selected core issues on conditions for productive learning in network learning environments. In L. Dirckinck-Holmfeld (Ed.), *Case: Learning the process of programming through ICT mediated apprenticeship*. Lausanne, Switzerland,: European Commission, DG INFSO,.

Fraser, B. J. (1998). Classroom environment instruments: Development, validity and applications. *Learning Environments Research, 1*(1), 7-34. doi: 10.1023/a:1009932514731

Freire, P. (2005). *Pedagogy of the oppressed* (M. B. Ramos, Trans.). New York: The Continuum International Publishing Group Ltd.

Fridell, M. E., & Alexander, K. (2005). A framework for principals: Promoting student success through leadership and collaboration. *Journal of College Teaching & Learning, 2*(9), 5-18.

Gallon, S., Housotter, W., & Bryan, M. A. (2005). Creating a learning environment. *Addiction Messanger, 8*.

Gardner, H. (1999). *Intelligence Reframed: Multiple Intelligences for the 21st Century*. New York: Basic Books.

Gerjets, P. H., & Hesse, F. W. (2004). When are powerful learning environments effective? The role of learner activities and of students' conceptions of educational technology. *International Journal of Educational Research, 41*(6), 445-465. doi: DOI: 10.1016/j.ijer.2005.08.011

Graf, S., Kinshuk, & Liu, T.-C. (2009). Supporting teachers in identifying students' learning styles in learning management systems: An automatic student modelling approach. *Educational Technology & Society, 12*(4), 3-14.

Griffith, J. (2000). Principal leadership of parent involvement. *Journal of Educational administration, 39*(2), 162-186.

Gulikers, J. T. M., Bastiaens, T. J., & Martens, R. L. (2005). The surplus value of an authentic learning environment. *Computers in Human Behavior, 21*(3), 509-521. doi: DOI: 10.1016/j.chb.2004.10.028

Herrington, J., & Oliver, R. (2000). An instructional design framework for authentic learning environments. *Educational Technology Research and Development, 48*(3), 23-48. doi: 10.1007/bf02319856

Huang, S.-Y. (2003). Antecedents to psychosocial environments in middle school classrooms in Taiwan. *Learning Environments Research, 6*(2), 119-135. doi: 10.1023/a:1024978318362

Kangas, M. (2010). Finnish children's views on the ideal school and learning environment. *Learning Environments Research, 13*(3), 205-223. doi: 10.1007/s10984-010-9075-6

Kester, L., Kirschner, P., & Corbalan, G. (2007). Designing support to facilitate learning in powerful electronic learning environments. *Computers in Human Behavior, 23*(3), 1047-1054. doi: DOI: 10.1016/j.chb.2006.10.001

Lillejord, S., & Dysthe, O. (2008). Productive learning practice – A theoretical discussion based on two cases. *Journal of Education and Work, 21*(1), 75 - 89.

Maina, F. Y. (2004). Authentic learning: Perspectives from contemporary educators *Journal of Authentic Learning, 1*(1), 1-8.

Majeed, A., Fraser, B., & Aldridge, J. (2002). Learning Environment and its Association with Student Satisfaction Among Mathematics Students in Brunei Darussalam. *Learning Environments Research, 5*(2), 203-226. doi: 10.1023/a:1020382914724

McCaslin, M. (2006). Student motivational dynamics in the era of school reform. *The Elementary School Journal, 106*(5), 479-490.

Newmann, F. M., & Wehlage, G. G. (1993). Five standards of authentic instruction. *Educational Leadership, 50*(7), 8-12.

Opolot-Okurut, C. (2010). Classroom learning environment and motivation towards mathematics among secondary school students in Uganda. *Learning Environments Research, 13*(3), 267-277. doi: 10.1007/s10984-010-9074-7

Ornstein, A. C., & Hunkins, F. P. (1998). *Curriculum: Foundation, principles, and issues* (3rd ed.). Boston: Allyn & Bacon.

Peltier, J. W., Hay, A., & Drago, W. (2005). The reflective learning continuum: Reflecting on reflection. *Journal of Marketing Education 27*, 250-263. doi: 10.1177/0273475305279657

Sharan, S., & Tan, I. G. C. (2008). Organizing schools for productive learning Retrieved from http://www.springerlink.com/content/x7n625/#section=153151&page=1

Shuell, T. J. (1988). The role of the student in learning from instruction. *Contemporary Educational Psychology, 13*(3), 276-295. doi: Doi: 10.1016/0361-476x(88)90027-6

Silins, H., & Mulford, B. (2004). Schools as learning organisations: The case for system, teacher and student learning. *Journal of Educational Administration, 40*(5), 425 - 446. doi: 10.1108/09578230210440285

Smeets, E. (2005). Does ICT contribute to powerful learning environments in primary education? *Computers & Education, 44*(3), 343-355. doi: DOI: 10.1016/j.compedu.2004.04.003

Smith, L. W., & Doren, D. C. V. (2004). The reality-based learning method: A simple method for keeping teaching activities relevant and effective. *Journal of Marketing Education, 26*(1), 66-74 doi: 10.1177/0273475303262353

Stager, G. S. (2005). *Papertian constructionism and the design of productive contexts for learning*. Paper presented at the EuroLogo X, Warsaw, Poland. Plenary Session retrieved from http://stager.org/articles/eurologo2005.pdf

Sugerman, D. A., Doherty, K. L., Garvey, D. E., & Glass, M. A. (2000). *Reflective learning: Theory and practice*. United States of America: Kendall/Hunt Publishing Company.

Tan, S.-C. (2010). Developing 21st century teachers as a knowledge builder. *International Journal for the Scholarship of Teaching and Learning, 4*(2), 78-89.

Templeton, R. A., & Johnson, C. E. (1998). Making the school environment safe: Red Rose's formula. *Learning Environments Research, 1*(1), 35-57. doi: 10.1023/a:1009984631570

Waxman, H. C., & Huang, S.-Y. L. (1998). Classroom learning environments in urban elementary, middle, and high schools. *Learning Environments Research, 1*(1), 95-113. doi: 10.1023/a:1009940816549

Wentzel, K. R. (1998). Social relationships and motivation in Middle School: The role of parents, teachers, and peers. *Journal of Educational Psychology, 90*(2), 202-209.

Zimmerman, B. J. (1999). Self-regulated learning and academic achievement: An overview. *Educational Psychologist, 15*(1), 3-17.