

THE DEVELOPMENT OF AN INSTRUCTION MODEL FOR HEARING IMPAIRED UNDERGRADUTE STUDENTS IN HIGHER EDUCATION INSTITUTIONS

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Abstract: The purpose of this study is twofold. The first is to ascertain the current state-of-the art of university instruction for hearing-impaired students. The second is to develop a model to be used as a guide for institution of higher learning in implementing instructional procedures for the hearing-impaired students. A documentary research methodology, employing content analysis was used. Documents scrutinized included self-audit reports, course syllabi, and documents relating to curriculum and instruction and other related administrative materials. The results of the first phase of this analysis were subsequently integrated with conclusions of the second phase of the same endeavors on theories, principles and practices on higher educational instruction for hearing-impaired students, both in Thailand and abroad. Altogether 2,954 titles of were studied. The purposed model derived from the result of the documentary analysis consisted of two parts. First part delineated the scope of perception and understanding of students according to instructional objectives proposed by Marzano and Kendall,(2008), as follows: (1) retrieval with subsets of recognizing, recalling and executing; (2) comprehension with subsets of integrating, symbolizing; (3)analysis with subsets of matching, classifying, analyzing errors, generalizing, specifying; (4) knowledge utilization with subsets of decision making, problem solving, experimenting, investigating; (5) met cognition with subsets of specifying goals, process monitoring, monitoring clarity, monitoring accuracy; (6) self-system thinking with subsets of examining importance, examining efficacy, examining emotional response and motivation. The second part is the proposed instructional model comprising of (1) principle focusing on meeting special needs of hearing-impaired students and their idiosyncrasies; (2) objectives regarding modalities, competency development, cooperation inducement, adaptability towards harmony in one's community and academic achievements; (3) instructional deliveries, stressing expected roles of faculty members teaming with Thai Sign Language interpreters and lesson plans designed to make concrete experience become comprehensible in abstract terms; (4) instructional activities emphasizing kinesthetic and visual group dynamics in collaborative styles; (5) Two tiers of evaluation was recommended. Authentic assessment is suggested for student academic achievements whereas student instructional behaviors are to be assessed by the instructional domains (Marzano and Kendall, 2008). Highlights of findings are indispensable instructional

systems of learner's preparation prior to the actual instructional deliveries, including the creation of optimal environment. Important actions for highest possible student achievements are engaging, framing, acquiring, elaborating and connecting. Positive reinforcements are to be important tools in sustaining cognitive abilities, especially, in thinking, feeling and willing. Significant findings indicate the discovery of effective substitution of deprived audio modality by visual and kinesthetic counterparts.

Objectives

The purpose of this study is twofold:

1. To ascertain the current state-of-the art of university instruction for hearing-impaired students
2. To develop a model to be used as a guide for institution of higher learning in implementing instructional procedures for the hearing-impaired students

Scope

1. The study delineated the scope of perception and understanding of students according to instructional objectives proposed by Marzano and Kendall (2008), as follows:

- a. Retrieval with subsets of Recognizing, Recalling, Executing
- b. Comprehension with subsets of Integrating, Symbolizing
- c. Analysis with subsets of Matching, Classifying, Analyzing Errors, generalizing, Specifying
- d. Knowledge Utilization with subsets of Decision Making, Problem Solving, Experimenting, Investigating
- e. Meta cognition with subsets of Specifying Goals, Process Monitoring, Monitoring Clarity, Monitoring Accuracy
- f. Self-system Thinking with subsets of Examining Importance, Examining Efficacy, Examining Emotional Response , Examining Motivation

2. The study was done in 25 public and private universities that accept limited number of students. Among these 25 universities, 9 of them were public universities; 12 of them were Rajabhat Universities and the other 4 were Rajamonkala Technological Universities. One university served as a try-out, leaving 24 for data sources of the study on the current state-of-the art of university instruction for hearing-impaired students.

3. The samples consisted of 40 hearing impaired freshmen majoring in Deaf Study at Ratchasuda College, Mahidol University.

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Theoretical propositions

This study focuses on the perception and understanding of students according to the instruction model for hearing impaired undergraduate students in higher education institutes based on the visual and kinesthetic modalities based on the following theories and concepts: Sensory Modality (Cornsweet, T.N., 1970) Cooperative Learning Approach (Slavin, 1990) Bilingual Education (Pardo V, 1994; Schirmer, 2001) The Teaching Model (Jensen, 2005; Tisana keammanee, 2005; Joyce & Weil., 1972) Components of Teaching Management (Warin Ratsameephorm, 1998; Paitoon Srifa. 2001; Joyce; and others, 1992) Principles of Instructional Design. (Tisana keammanee, 1991) Teaching Technique and Classroom Management (Brown and others, 1995; Robert J.Marzano, 2007; Sally Brown, Carolyn Earlam and Phil Race, 1995; Robert T. Tauber, 1995; Mann, R.D. et al., 1970) Concepts and Approach of Education Management in Higher Education for Students with Special Needs (Ashman and Elkins, 1994: 23; Sri-on, Jitprapa, 2000) Promotion and Development of Academic Support and Services for Students with Disabilities in Higher Education Institutes (Office of Higher Education, 2005; Moors D, 2000; Padden C, 1989; Schirmer .B.R., 2001) Teaching Approach for Children with Special Needs (Padung Arayawinyoo, 1999; Blair, 1957) Designing & Assessing Educational Objectives (Mazano and Kendall, 2008; Sriya Niyomdhama, 1995; Sean Neill and Chris Caswell, 1993.)

Method

Due to the lack of audio perception, persons with hearing impairment learn things from visual and kinesthetic perceptions. However, the teachers' lack of knowledge on the appropriate way of teaching and the teaching media and activities currently used for hearing impaired students are not appropriate for their learning as they do not emphasize on these two ways of perception. Hence, developing the instruction model for hearing impaired undergraduate students in higher education institutes is necessary for their learning process.

Data sources covered documentary study on deaf education, bilingual, bicultural education, sensory modality, cooperative learning and teaching model. Documents scrutinized included self- audit reports, course syllabi, and documents relating to curriculum and instruction and other related administrative materials. Other data were collected from the non-participatory observations on the teaching and activities of the higher education institutes that participated in the study including interviews of hearing impaired students, lecturers and administrators.

Questionnaires, interviews and observations were developed and conducted by the researcher. Documents and interviewed results were content analyzed and presented in tables and diagrams. Questionnaires scores were analyzed by factor analysis. Finally, the efficiency of the instruction model developed by the researcher was evaluated based on two criteria: students' academic

achievements assessed by the authentic assessment and student instructional behaviors assessed by the instructional domains.

Result of the Study

According to the documentary research on the current state-of-the art of university instruction for hearing-impaired students, it was found that: Among 168 public and private universities that accept limited number of students, 25 of them have hearing impaired students (the Commission on Higher Education 2008) that study in 26 faculties. The majority of them major in education (76%). The second, the third and the fourth biggest groups major in management, industrial technology and arts respectively.

Current Situation in these Universities

1. There are communication problems between lecturers and hearing impaired students.
2. There are insufficient academic support services such as sign language interpreters, note-takers, teaching assistants and video cameramen.
3. The lecturers lack knowledge in sign language and deaf culture.
4. The teaching media used in the classes are not appropriate for the nature of hearing impaired students that learn through their eyes.
5. The teaching method used in the classes is not appropriate for the nature of hearing impaired students.
6. Lecturers and academic staff do not have knowledge in disabilities and/or persons with disabilities.
7. Most universities do not provide sign language interpreters. Some universities hire one interpreter to interpret in every class, which makes him/her exhausted and thus, cannot work efficiently. This directly affects the learning of hearing impaired students.
8. Due to the insufficiency of sign language interpreters, some classes do not have interpreters. Hearing impaired students learn by lip reading and copying the notes from classmates, which is not an efficient way of learning.
9. Sometimes the lecturers speak with their back to the students (i.e. when they are looking at the whiteboard). Therefore, hearing impaired students cannot lip read.
10. Some lecturers think once there is a sign language interpreter in the class, hearing impaired students can learn without any problem. But in reality, there should be other kinds of academic support, curriculum modification, appropriate teaching media, etc. to support the learning of hearing impaired students.

Findings

1. The teaching method and process used in these universities are similar to the ones used for hearing students.
2. Aside from sign language interpreters, there are not other kinds of academic support for hearing impaired students. There are no modifications of the curriculum or teaching method and process.

3. There is a time lag between the point where the lecturers finish talking and the point where the interpreters start to interpreter. This time lag delays hearing impaired students in getting information from the lecturers. This process takes 2-3 times of the regular time for hearing students. This makes hearing impaired students learn more slowly than their hearing peers, not because of their lower capacity.

4. The learning capacity is highly different among hearing impaired students.

5. The Conceptual Framework, Method and Approach according to Marzano and Kendall (2008) let hearing impaired students develop their perception and understanding in different lessons by using kinesthetic approach to prepare the students before the real classes. Through this approach, hearing impaired students can develop both parts of their brain which control different physical functions. Full participation of the students must be encouraged in classes such as answering the questions one by one. Moreover, hearing impaired teachers/teaching assistant need to periodically summarize what has been taught in sign language.

Curriculum Development Alexandria, Virginia USA.

Joyce, B. Weil, M. and Showers, B. (1992). Models of Teaching (4th Ed.) Boston: Allyn and Bacon.

Joyce. & Weil. (1972). Three Teaching Strategies for the Social Studies. Chicago: Science Research Associates.

Mann, R.D. et al. (1970). The College Classroom: Conflict, Change and Learning. New York: John Wiley.

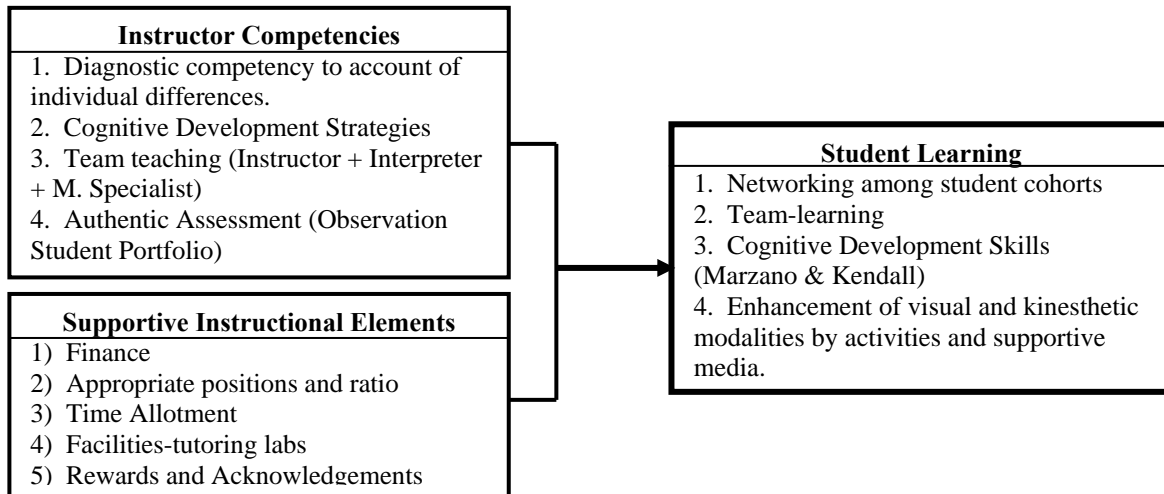
Marzano, R. J., & Kendall J. S., (2008). Designing & Assessing Educational Objectives. Thousand Oaks, CA: Corwin Press.

Moors, D. (2000). Educating the Deaf: Psychology, Principles, and Practices (5thEd.) Boston: Houghton Mifflin.

Office of the Higher Education Commission. (2005). Guidelines of the promotion and development of welfare services system for students with disabilities in higher education, Bangkok: Sahamitr printing.

Padden, C. (1989). The Deaf Community and the

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References

Ashman, A Elkiu, J. (1994). *Educating Children with Special Needs*. New York: Pretice Hall.

Blair, F. (1957). "A Study of the Visual Memory of Deaf and Hearing Children", *American Annals of the Deaf*. 102 : 254 – 263.

Cornsweet, T. N. (1970). *Visual Perception*. New York: Academic Press.

Dhisna, Khamanee (1999). *Instructional Design System. Handouts*. Bangkok

Gagne, R.M. Briggs, L.S. and Wager, W.W.(1992). *Principles of Instructional Design*. New York: Harcourt, Brace, Jovanovich.

Jensen, E. (2005). *Teaching With The Brain in mind*. 2nd Edition. Association for Supervision and

Culture of Deaf People. In S. Wilcox (ED.), *American deaf culture: and anthology*. Maryland, USA: Linstok Press.

Padung Arayavinyu (1999). *Educational inclusive among normal students and the students with special needs*. Bangkok: Wankaew Press

Paitoon Sri-Fa (2001). *A development of Instructional system design through internet for school net Thailand*. Ph. D dissertation (Educational Technology). Bangkok: Faculty of Graduate Studies, Srinakarindharawsiroj University, copy print.

Pardo, V. (1994). *Selected Issues in Bilingual Education for the Deaf*. M.A. Thesis, La Trobe University, Victoria, Australia.

- Robert T. Tauber. (1995). Classroom Management. Second edition Theory and Practice.
- Robert J. Marzano. (2007). The Art and Science of Teaching. A Comprehensive framework for effective instruction. Virginia USA.
- Sally Brown, Carolyn Earlam and Phil Race. (1995). 500 Tips for Teachers. London.
- Schirmer, B.R. (2001). Psychological, Social, and Educational Dimensions of Deafness. , Kent State University.
- Sean Neill and Chris Caswell. (1993). Body Language for Competent Teachers. London.
- Slavin, R.E. (1990). Theory Research and Practice. Englewood Cliffs, N.J.: Prentice Hall.
- Sri-on, Jitprapa (2001). A History of Deaf Education in Thailand. Ph.D. Thesis, La Trobe University, Victoria, Australia.
- Sri-on, Jitprapa (2004). Patterns and Guidelines of the curriculum development for the students with special needs. Bangkok: Arun printing L.td.
- Sriya, Niyomdham (2007). The capacities in reading and writing Thai language of students with hearing impaired at level 12 in schools for the deaf. Bangkok: Rachasuda College, Mahidol University.
- Sriya, Niyomdham (1995). Hearing Impairment impacts Educational Psychology and Social. 2nd printed. Bangkok: Ramthai press.
- Warin, Rasamibhrom (1997). Instructional Design and Development. Bangkok: Department of Educational Technology, Srinakarindharawiroj University.