



EVALUATION OF PHYSICAL EDUCATION CURRICULA FOR STUDENTS WITH MENTAL RETARDATION IN TEHRAN

Ali Akbar Arjmandnia
University of Tehran, arjmandnia@ut.ac.ir

Keivan Kakabaraee
Islamic Azad University of Kermanshah, keivan57@yahoo.com

Abstract

The aim of this study was evaluation of physical education curriculum in special schools (that teaches students with mental retardation) in Iran. In this research that conducted with R & D method, after diagnosing goals and objectives; factors, criteria, and weights were determined. The factors that assigned in this research were included physical educator, school manager, content, sport space and equipment, teaching-learning process. After planning examination criteria for factors, the committee determined the resource of collecting data. The necessary data were collected with researcher- made checklists. The scales that were conducted included: 1.School managers checklist 2.physical educators checklist 3.sport space & equipments checklist, 4. Experts checklist. These scales were prepared based on documents and professional perspectives. 20 managers and 20 physical educators from 20 schools in Tehran and all of experts in exceptional student's organization were selected as available sample. Results showed that sum of observed weights were % 59/76.

Keywords: Evaluation, curriculum, physical education, mental retardation.

INTRODUCTION

In exceptional education, corporal, mental, and behavioral differences of some students are so that they cannot be educated in accompany with other students without changes in program, method, and training instruments (Afruz, 2009). In fact, special needs are considered in designing any educational organization or system. Then educational activities are adjusted to accomplish these goals. Adjustment and execution of such activities should be efficient. In other words, to make efficient and clarify each educational system to achieve the specified goals, there should be an evaluation system (Bazargan, 2008).Providing a curriculum proportional to each educational course requires evaluation of current programs. This makes aware us toward deficiencies and faults of programs, and then we can do effective actions to remove these faults. What is called curriculum includes components like goals, content selection and its organizing styles, organizing learning and teaching experiences, evaluation and other materials such as teacher guide book and films (Maleki, 2008). Before 1918, concept of curriculum was dependent to prepare materials, but a new concept was offered by publication of Babbit's book (1918). That concept was all activities that a leaner must do in school to attain necessary knowledge, skills, and views for a successful life in a special society. Therefore, concept of curriculum was suggested in frame of leaner and teacher activities for the first time. An efficient curriculum is based on findings about students, society, and different knowledge. These knowledge comes from anthropology, sociology (especially developmental psychology), and neurology. Planners of curriculum edit general and objective goals by adopting finding of the sciences and then do final evaluation for these goals:

If the program has attained its extended goals. If the goals are valid for those want to learn (Sailor et al, 1999).

One of the important and effective curriculums in educational system is physical education that is effective to grow and develop various skills in students.

Regular exercises decreases risk of chronic heart diseases, cancer, and diabetes. For younger persons, these exercises help growth of bones and muscles and decrease stress and depression and prevent fatness (Lee et al, 2007). In 2004 it was shown that 18.8 percent of 6-11 children and 17.4 percent of 12-19 children suffer from fatness (Lee et al, 2007). Despite the above benefits of physical education, many people think physical education is not a thing but a free game or leisure period. Even specialists in this field do not agree with each



other. Public Law 94-142 (1975) defines physical education for exceptional students as a factor to grow 1) physical fitness, 2) fundamental motor skills and patterns, 3) skill of aquatic sports, rhythmic movements, individual and group games, and sport (Lavay & Eachsteadt, 1992). Motor skills are important components of growth and personality of children and youngsters. For importance of this problem we can point to views of different theoreticians like Piaget John, John Jack Russo, and Gazelle that know basis of personality of each person from psycho - motor activities. Therefore, specialists of exceptional students design curriculum using these theories. Physical education program of intellectually disabled students are also to educate and rehabilitate such students. Some of studies showed that physical activities do not increase basic intelligence but help improvement of school performance. Another study showed that physical education helps children with mental retardation to have a better imagination of his bodies (Medical Association of Child Health, 2002). According to the researches, intellectually disabled children are slower than others because of their low intelligence (Ison and Surburg, 1993). Results of studies of Moka and Cover (1992); Rabbit and Banerji (1989); and Wellford (1980) shows effects of exercises on increment of reaction time (quote of Vismeh, 2001). The results of study of Yun and Yun (1991) titled "Effects of motor exercises on intelligence return and psycho - motor skills in intellectually disabled persons" showed motor exercises affects psycho -motor features of those persons. Moreover, it showed that motor exercises affects on either motor skills or cognitive growth of mentally retarded children. In a study in 2002, Bolvardi showed that pottery, which requires different motor skills, caused improvement of visual perception of educable students. Also, pottery caused improvement of fine motor skills of those students. However, game and sport are important parts of lives of children and are from fixed affairs of society. If we want children with intellectual disability be accepted in inclusive schools and participate in recreational activities by their classmates, they must have suitable motor skills. Weak movements make these children engage in a failure loop and they will not be accepted by their classmates in games, and this causes their social isolation. The worse is that if they play with their classmates, they may become nervous and failure, then these experiences may prevent them from motor exercises (Victom, 1983). Perhaps the most important benefit of training fundamental motor skills for intellectually disabled persons is related to their functional skills. Basic motor skills can be converted to functional skills necessary for essential movements. These skills help a person to go upstairs and turn around things. These functional skills are formed under 5 in normal children. However, many intellectually disabled youngsters or adults may need training for this. Available evidences show that persons with intellectual disability suffer growth delay and other factors are also effective like body size, body structure, weak muscles, economic-social level, lack of motor experiences, and lack of suitable opportunities. Results of these studies show that lack of muscle control (muscle activation or force generation) and lack of muscle cooperation in different parts of body retard movements.

Students with intellectual disability suffer from different problems because of weak intelligence and cognition. These problems are observed in different motor, educational, behavioral, and moral levels. Lean et al (2010) believe that intellectually disabled persons often don't use offered motor and sport programs although they need these skills to become motive. On the other hand, sport programs for these persons have long-term corporal and psychological effects and play a positive role in improvement of their motor skills like object control and movement skills (Ninot and Mayano, 2007; Goodvy and Berenta, 2003). These programs can be executed in to integral and separate forms. Ninot and Mayano (2007) believe that if sport programs are executed integrally with normal children; they find a realistic perception of motor and physical skills. Physical education programs for mentally retarded persons include three categories: 1) activities related to physical readiness and body fitness, 2) fundamental motor skills, 3) sport skills, etc. (Lavay and Eachstaedt, 1992). Although studies for physical educations for children with intellectual disability are very low, but there are many other efforts in educational areas that we point to some of them here. There are various patterns to evaluate a program. Worthern & Sanders (1987) categorize evaluation pattern in six groups of objective oriented approaches, management oriented approaches, consumer oriented approaches, expertise oriented approaches, adversary oriented approaches, naturalistic oriented approaches, and participants oriented approaches. Objective oriented evaluation is a basic concentration on goals and educational purposes and how these goals are met (Ruhe & Zumbo, 2009). Hossein Khanzadeh Firuzjah executed a study with goal of recognition of social skills for with intellectual disability students of primary and guidance schools and validation of curriculum pattern of social skills in 2009. After analysis of data from parents questionnaire, teachers, and specialists, students skills was identified in nine components and validity of the proposed pattern was confirmed by specialists. Also, in 2007, Hosseini executed a study with goal of recognition of problems of



math curricula of normal guidance school students from the view of teachers and students in Qom, Iran. The results showed that there were deficiencies in all parts of goal, content, learning and teaching methods, and evaluation methods, and these deficiencies had negative effects on educational progress of math students. Physical education programs that have important motor and recreational components and can be used according to requirements of students with intellectual disability, prepare individual and occupational independence for them. Thus, these programs must be evaluated periodically and their access trends become facilitated well.

General areas of school motor activities that must be evaluated periodically upon objective oriented approaches are: role of teacher in execution of program, facilities and equipments, and program content. This evaluation can be fulfilled by a review team including physical education specialists, engaged teachers and school manager. Periodical sessions must be hold to examine results of these evaluations and special designs be proposed to remove current weaknesses and proposing better offers (Vannir, 1990). Regarding to what was propounded and regarding to insufficient studies about physical education evaluation of persons with intellectual disability, and regarding to age of physical education, this curriculum evaluation is very essential. The general goal of this study is to illustrate current situation of physical education lesson of students with intellectual disability in special schools of country to investigate different factors in this regard be view of manager, specialists, and physical education teachers of special schools of Tehran. In other words, this study follows the answer of this total question that how is situation of physical education curriculum of students with intellectual disability in special schools from the view of manager, specialists, and physical educators of special schools, and how much it distances from a desired situation.

METHODOLOGY

If we consider curriculum of physical education of students with intellectual disability as a unit, we notice statistical sub-societies to gather data (place of this study is Tehran):

- a) Experts of headquarter area (experts of intellectual disability section and experts of physical education)
- b) Selected school managers
- c) Physical education teachers of selected schools

Data is gathered from sources (a) by counting and from the other paragraphs by sampling. Therefore, samples were selected from special schools of Tehran (4 schools from north, 4 schools from center, 4 schools from west, 4 schools from east, and 4 schools from south). Then managers of these selected schools (20 managers) and active sport teachers (20 teachers) were investigated. Then space and equipments were examined. It should be mentioned that there are 35 special schools for students with intellectual disability in Tehran from which 20 schools were investigated. This research is conducted for evaluating physical education curriculum by Research and Development (R & D) method. This method is used for providing and diagnosing appropriateness of an educational procedure and process (Burg & Gall, 1992). In this research these scales were provided and conducted:

1. Questionnaire for school managers
2. Questionnaire for physical educator:
In these scale, there were different kinds of questions such as yes/no questions, multi choice questions in Likert modal and etc.
3. Questionnaire for experts: this scale included two sections. First section is included some questions for getting information about organizational and demographical points. In second section there are numbers of questions for receiving and getting expert's point of views about effective factors on physical education curriculum. This section is planned in Likert form.
4. Checklist for Space, equipments and sport requirements in schools. School managers completed this checklist. On the other hand, managers commented about sport equipments in each school and filled this instrument individually.

As we mentioned above, in this research, for evaluating physical education curriculum, needed standards were planned by evaluation committee. Taken data was compared with those standards. And finally subjects

presented their basic point of views about physical education program. Degree of appropriateness as total coefficient is computed by the following formula:

Total Appropriateness Coefficient (TAC) = (Inappropriate frequencies × 0) + (partially appropriate frequencies × 1) + (fully appropriate frequencies × 2).

In this research plan, there will be no need to inference statistic because generalizing data are not of goals in these researches. Results wouldn't generalize to other population. On the other hand evaluation process is conducted just for this curriculum by researchers. For this purpose, descriptive statistics such as frequency and percent were used for description current and appropriate statues of physical education program.

RESULTS

Most important results of this research are included in following tables. Factors that evaluation committee introduced them as basic factors in physical education curriculum, will be presented in table number 1.

Table1. Basic factors of physical education curriculum for special schools and their weights

Basic factors of physical education curriculum for special schools and their weights		weights
1	physical educator	35%
2	school manager	10%
3	content of PE program	25%
4	space & sport equipments	15%
5	learning – teaching process	15%
Total		100 %

Note: PE=Physical Education

As table 1 show, 5 factors are considered as effective factors on physical education curriculum. So in this table, there is weight of each factor. Physical educator, learning – teaching process, and content of physical education are more important factors. They have more effect on educational quality of physical education curriculum. In compare with them, some factors such as school manager have little effect on educational quality. In the following. There will be description of one factor upon to the evaluating criteria with differential weights. Physical educator is first and most important factor as a sample that is presented in table 2.

Table2. Evaluation criteria with differential weights for Physical educator

factor	criteria	weights
Physical educator	Academic level	10%
	Academic major in university	20%
	Teaching experience (in years)	10%
	age	10%
	Participating in in – service courses in which physical education is taught and trained	7%
	Sport field	3%
	Lesson plan and using it	14%
	Taking part in school council	5%
	Information about sport association for students with mental retardation	3%
	Being informed with documents that are planned for physical education by organization	3%
	Being concerned with teaching adapted physical education	5%
	Satisfaction of salary amount and other vocational benefits	5%
	Cooperation with school management system	5%
	total	100 %

As can be seen in table 2, there are 13 criteria that were determined for evaluating physical educator as basic element of physical education curriculum. In front of each criterion, you can see weights that devoted to each criterion. Highest weight is for teacher's academic major in university.

The results of evaluation of physical educator factor are summarized in table 3.

Table 3. Result of judgment about criteria for physical educator factor

criteria	Fully Appropriate frequencies	Partially Appropriate frequencies	inappropriate frequencies	TAC	Final appropriateness	Expected weights	Observed weights	
1	18(x2) +	7(x1) +	0(x0) =	43 □	appropriate	10%	10%	
2	0	18	7	18	Partially appropriate	20%	10%	
3	8	13	4	29	appropriate	10%	10%	
4	20	5	0	45	appropriate	10%	10%	
5	6	13	6	25	Partially appropriate	7%	3/5%	
6	8	6	4	3	22	Partially appropriate	3%	15%
7	5	11	2	3	36	appropriate	14%	14%
8	15	-	3	3	30	appropriate	5%	5%
9	3	4	11	3	10	inappropriate	3%	0%
10	18	0	0	3	36	appropriate	3%	3%
11	15	3	0	3	33	appropriate	5%	5%
12	2	4	12	3	8	inappropriate	5%	0%
13	17	1	0	3	35	appropriate	5%	5%
total						72%	100 %	

Note: TAC= Total Appropriateness Coefficient

Upon to the above mentioned items in table 3, academic major of teacher and using lesson plan in teaching are most important criteria. You can see their weights are equal with 20 and 14 percent. Criteria number 1, 3, 4, 7, 8, 10, 11, and 13 are fully appropriate. Criteria number 2, 5, and 6 are partially appropriate and Criteria number 9 and 12 are inappropriate. On the other hand, physical educator doesn't inform with sport association for students with mental retardation and he/she doesn't satisfy about salary and vocational benefits. In totally, sum of observed weights is 72%. In fact, situation of this factor is agreeable.

Table 4. Basic factors of physical education curriculum for special schools and their (expected and observed) weights

Basic factors of physical education curriculum for special schools and their weights	Expected weights	Sum of Observed Weights(from 100)	Observed Final weight For each factor
1 physical educator	35%	72%	25/2*
2 school manager	10%	73/5%	7/35
3 content of PE program	25%	47/39%	11/84
4 space & sport equipments	15%	57/5%	8/62
5 learning – teaching process	15%	45%	6/75
Total	100%	--	59/76

* For example: $(72\% \times 35\%) / 100 = 25/2\%$



DISCUSSION

Providing a curriculum proportional for each educational system requires evaluation of current programs. This aware us from deficiencies and faults to programs so that we can remove these faults. What we mention as curriculum is components like goals, content selection and its organizing styles, learning-teaching experiences, evaluation, and other educational materials like teacher's book and films (Maleki, 2008). In this evaluation we tried to evaluate main elements of physical education curricula especially students with intellectual disability. These elements were physical educator, school manager, content of physical education curriculum, space and sport equipments of school, and learning-teaching process. According to obtained information from the previous pages we concluded the following results: Sum of observed weights is 59.76. If we want to study this weight as a five-option problem, we conclude this program has an average situation.

Table 5: Final statistical evaluation of program

81-100%	61-80%	41-60%	21-40%	0-20%
Very good	Good	Average	Weak	Very weak

In other words, physical education curriculum of special schools is not weak. However, it is not good and it seems that it is essential situation of relatively desired and undesired criteria of each factor is examined precisely and do necessary actions to dispose them. As we mentioned in the previous sections, after designing and determination of related factors and criteria, tables were designed to classify these criteria in three desired, relatively desired, and undesired classes. Desired criteria help executors to achieve their goals in its best form. In this section, available deficiencies of criteria are propounded and proposals are offered for undesired and relatively desired criteria. In fact, if undesired and relatively desired criteria are modified and approach to desired situation, an efficient pattern of physical education for intellectually disabled students can be discussed. The results of this evaluation showed that the factor with the most desirable situation than others is physical educator, and the worst desirable situation is learning – teaching process. Curriculum content had average situations. This finding is in accordance with Hosseini (2007). In study of Hosseini (2007), he has suggested that math curriculum have serious faults by content, learning-teaching methods and teacher. Regarding to this result that fault in content, teacher and learning-teaching methods were reported in two different syllabuses, serious and major factors in curriculum must be noticed. In continue, we must say that the obtained data show that scientific knowledge of teacher in relatively undesired. Rostami (1997) also suggests that physical education area of children learning – teaching process have serious problem regarding employing skillful teachers. In other words, scientific and expert level and ability of teachers to teach for these children must be improved (Khajavi et al, 2008). The results of this research show that physical education teacher of special schools of Tehran are not familiar with mentally retarded Sports Association and also are not satisfied with their salary. It is better these association introduce itself to teachers, and since salary and awards are from main factors in job consent, and job consent is also essential in successful implementation of each job task, authorities must proceed to modify budget and salaries of main executors of physical education namely sport teachers.

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REFERENCES

- Afruz, G. A. (2009). Psychology and rehabilitation for children with Down syndrome. Tehran: university of Tehran Press.
- Bazargan, A. (2008). Educational evaluation. Tehran: Samt Press.
- Betenburg, T .A & Creemers, B. (1989). Evaluation Language Curricula in the Natherlands. <http://www.eric.ed>.



Bolvardi, A. (2002). Study on poetry on improving visual perception in students with mild mental retardation. Thesis for getting MA degree, psychology faculty, University of Tehran.

Eichstaedt, C. & Lavay, B. (1992). Physical activity for individuals with mental retardation, infant through adulthood. Champaign, IL: Human kinetics.

Fazio, B., Polsgrove, L. (1989). An evaluation of the effects of training special educators to integrate microcomputer technology into math curricula. Journal of Special Education Technology, 10, 2, 5-13.

Goodway, J. D. & Branta, C. F. (2003). Influence of a motor skill intervention on fundamental motor skill development of disadvantaged preschool children. Research Quarterly for Exercise and Sport, 74 (1): 36-46.

Hosseini, M. H. (2007). Pathology of math curriculum upon to the teachers and students views in Qom province. Research plan, research council of Qom education organization.

Hossein Khanzadeh firoozjah, A. A. (2009). Planning social skills curriculum for students with mental retardation. Thesis for getting MA degree, psychology faculty, University of Tehran.

Lee S. M. Burgeson, C. R. Fulton J. E. & Spain, C. G. (2007). Physical Education and Physical Activity: Results from the School Health Policies and Programs Study. Journal of School Health, 77, 8, 435-463.

Lin, J. D. ; Lin, L.P.; Chang, Y. Y. ; Wu, S. R. & Wu, J. L. (2010). Physical activity and its determinants among adolescents with intellectual disability. Research in Developmental disability, 31(1): 263-9.

Ninot, G. & Maiano, C. (2007). Long term effects of athletics meet on the perceived competence of individuals with intellectual disability. Research in developmental disability, 28(2): 176- 86.

Ruhe, V. & Zumbo, B.D. (2009). Evaluation in distance education and e-learning, the unfolding model. New York and London: the Guilford press.

Vannier, M. (1990). Physical Activity for the Handicapped. Southern Methodist University .Prentice Hall, INC.

Vismeh, A. A. (2001). Reaction time and motor skills in children and adolescents. Paivand, 266, 54-61.

Worthen, B. R. & Sanders, J. R. (1987). Educational evaluation: Alternative approaches and practical guidelines. New York: Longman.

Yoan, B. & Yoan, S (1991). Perceptual and motor skills. Adapted Physical Education, 13: 1191-1194.

Sarmad, Z. , Bazargan, A. & Hejazi, E. (2000). Research methods in behavioral sciences. Tehran: Agah Press.