



REVIEW ARTICLE

EDUCATIONAL EVALUATION WITH CIPP MODEL: A REVIEW OF LITERATURES

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ABSTRACT

Background & Aim: Achieving the proper quality of the curriculum requires frequent measurements and the detection of program failures. Therefore, the quality of education and the effectiveness of the educational system are the main concerns of the educational system and development practitioners in each country. The purpose of this study is to review how the educational system is evaluated using the CIPP model.

Materials & Methods: This research is a review study conducted in 2020. For this purpose, the databases of ProQuest, Google Scholar, PubMed, Scopus, SID, and MagIran were reviewed. The range of articles was from 1995 to 2020.

Results: The simulation model evaluates the program in four areas: Context, Input, process, and Product. The purpose of the context evaluation is to provide a rational context for determining educational objectives. Input evaluation describes the conditions and influential factors and resources needed in program design to achieve the appropriate goals. Process evaluation is providing the necessary information about the methods and implementation of the program to make the necessary decisions. Finally, the product evaluation includes results and judgments about the level of appropriate response to the needs as well as controlling deviations from the program.

Conclusion: The CIPP evaluation model has a wide application in the educational system and is a comprehensive model that can examine a program systematically at all stages of its implementation.

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INTRODUCTION

Achieving the proper quality of the curriculum requires repeated assessments and the discovery of deficiencies and shortcomings of the curriculum. Therefore, the quality of education and the effectiveness of the education system are two of the most important concerns of the education system and decision makers in development in any country. Quality in higher education is a multidimensional and to some extent ambiguous concept which is challenging to judge. Evaluation is of particular importance as a mean of making this judgment possible and documenting the quality (2). It is also possible to formulate and implement appropriate programs and plans, achieve the ideals and goals of the higher education system, obtain information from the work and the extent to which the goal is achieved, using evaluation. By evaluating an educational program, it is possible to understand the degree of adaptation and coordination of that program with the needs of the individual and the target community, and determine the capability of methods and tools used in education and enumerate the effective factors in program development (3).

Educational evaluation is a formal activity that is performed to determine the quality, effectiveness or value of a program, process, goal or curriculum (4). Evaluation in Webster's dictionary is defined as "determination of the value, nature, character, or quality of something or someone". One of the accepted definitions for evaluation is the systematic process of collecting, analyzing, interpreting and disseminating information to determine the extent to which the desired goals are achieved and the success of the program (5, 6). The purpose of evaluation is to produce valid, realistic, and useful findings for resource allocation, program quality improvement, and appropriate accountability. Proper and principled evaluation, while strengthening the strengths and correcting the weaknesses, can be the basis for many educational decisions and planning to improve the academic level of a university (7). Without effective evaluation, organizations can not improve their projects and services. One of the models of educational evaluation arising from a management-based approach is the CIPP model.

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The CIPP model was first developed by Guba and then by Daniel Stufflebeam in 1960. This model was created due to the limitations and inefficiency of traditional evaluation strategies such as survey methods, standardized tests and criterion-based tests (8). This model is a comprehensive framework for constructive guidance and is rooted in goals, tests and experimental designs and evaluates programs, projects, products, institutions and systems in a formative and cumulative manner and the most important purpose of the evaluation is Improving and modifying the program (9). Work on the CIPP model began in 1965 in American public schools because they could not successfully and meaningfully evaluate the projects they supported. In addition, they were not able to change variables in accordance with the goals and standards set to evaluate the program to control it. The main users of this evaluation template include: government officials, administrative and project officials, project and program staff, school principals, church officials, physicists, and evaluators. The CIPP model is designed and developed to facilitate managers' decision and is a holistic and comprehensive model that can systematically and comprehensively review a program at all initial, implementation and final stages. A study conducted by the American Association for Education and Development found that the CIPP model was superior to other models in evaluating educational programs (10). Considering the importance and application of this model in educational systems, this study was conducted with the aim of reviewing how the educational system is evaluated with the CIPP model.

METHODS

This research is a review study conducted in 2020 during which the evaluation of the educational system with the CIPP model has been investigated. For this purpose, ProQuest, Google Scholar PubMed, Scopus SID, and Magiran databases were examined. Persian and English languages were used for the search. Search keywords were "CIPP model", "Evaluation" and "Educational System". MESH was also used to determine keywords. Keywords were determined by two experts in the field of education and were searched in databases by themselves. Then, one of the research colleagues reviewed and researched the sources and databases to ensure the adequacy of searching for information and articles. Inclusion criteria included that the articles be published between 1995 and 2020. Articles published in English and Farsi languages. The subject of studies is how to evaluate the educational system with the CIPP model. Easily published in reputable research and academic journals and its full text is available. Articles are available in full text in English or Persian. Exclusion criteria included studies that were unrelated to the subject and studies that performed this model in systems other than educational system. The search results were 25 articles, and by removing duplicates and articles without full text (articles that were published in English language journals and were not available for reasons such as payment), 10 articles were recognized as eligible.

In order to extract the data, the data extraction form was designed based on the purpose of the research. This form included sections such as author details and year of publication, purpose of study, and results. After completing

this form, the results obtained from the analysis articles were summarized and finally reported.

RESULTS

CIPP evaluation model has four steps. CIPP consists of the first letter of the words context, input, process, and product.

Context Evaluation

According to Stufflebeam the purpose of this evaluation is to provide a rational basis for setting educational goals. In this section, in order to assess the needs and determine the objectives some indicators are introduced to evaluate the quality of the course (11). This stage of evaluation also includes analytical efforts to identify relevant elements in educational settings as well as efforts to identify problems, needs, and opportunities in this context or educational situation. In summary, this stage of evaluation helps to make design decisions (12). A curriculum should be developed in line with the final goals of the field, and since the goals are defined based on the mission of the university, it is important to develop the appropriate mission. The program should be designed to provide the scientific services needed by the community and to train specialized human resources. There should also be formal and transparent rules for admitting a qualified and effective student to the course. Moreover, the university environment should facilitate students in learning and research by providing a suitable environment (13). The questions asked in this section include: Are the goals appropriate or not? Are the courses related to the goals? Does it meet social needs? (14).

Input evaluation

Input evaluation describes the influencing conditions and factors and the resources required in program design to achieve the goals. The main purpose of input evaluation is to help develop a program that is designed to make educational changes and achieve the determined goals which are set in the context evaluation phase. Financial and human resources, policies, educational strategies, timely forecasting, barriers and constraints in the educational system to achieve the set goals are provided (15).

Input evaluation looks for ways and means to refine strategies, measure costs and identify strengths and weaknesses. It may also include a review and testing course, as well as providing guidance and criteria for strengthening training plans and programs. Input evaluation should provide a key solution to achieve a better choice (10). It can be said that input evaluation is constantly and continuously looking for better ways and methods, in addition to completing the tasks and functions to help that part of the scarce resources that should be used optimally. Input evaluation refers to the evaluation and enhancement of plans and programs at all levels, from individual monitoring of the annual work plan to the curriculum, as well as strategies and the annual budget. The input evaluation agent helps these people by defining the activities necessary to develop the program, obtaining appropriate information about those activities in the form of a complete report and presenting it to decision makers. To decide on the type and how to use different educational resources to achieve the set goals (16). The main task of evaluators here is to provide the necessary and reliable information for planners (17).

In the educational system, the input factors include the characteristics of teachers, educational facilities, and equipment, and organizational and administrative capacities (14, 18).

Process evaluation

Process evaluation involves the collection of data that is obtained when the program is designed and implemented. In evaluating the process factors in the educational system, three aspects of organizational behavior, teacher behavior according to the time spent for various tasks and learner behavior according to the time spent to do homework and how to use the resources provided by the school are considered (18). One of the functions of process evaluation is to record program-related events over a period of time. In this section, we seek to achieve quality outputs from the course by defining tailored processes. The goal is to provide plans to implement the program in the best possible way. Daniel Stufflebeam believes that process evaluation seeks to answer questions such as: Is the program doing well? What are the obstacles to its success? What changes are necessary? Answering these questions helps to control and guide implementation practices (12). The main purpose of process evaluation is to provide the necessary information about the methods and the implementation of the curriculum to make the necessary decisions. In other words, the task of the evaluators is to determine whether the curriculum is implemented according to what was set or not. This process of control and inspection of each component of the curriculum is done carefully by using different methods. Are the evaluators in charge of monitoring here? (17). Essentially, evaluation is the process of reviewing the implementation of a program, and the purpose of doing so is to detect or predict the defects and shortcomings of the program during implementation and provide feedback to managers and staff on how to match the progress of work with the regulatory program. Process evaluation techniques include on-site observation, interview with the participant, ranking scales, questionnaire, record analysis, participant case studies, and cost tracking (10).

Evaluation of output (product)

Output evaluation includes results and judgments about the level of appropriate response to needs as well as control of deviations from the program. The role of product evaluation is to determine to what extent the goals of the program have been achieved. In this type of evaluation, the tools for measuring the achievement of goals are developed and implemented. The obtained data can be used in managers' decisions to continue or modify the program (12).

The purpose of evaluating the output is to measure, interpret, and judge the results of the program. Measurement and evaluation of program outputs is usually done in three different time stages: a) During the implementation of the program and also the end of each stage of the program in order to understand how the program is implemented and its success in achieving the goals set for Those steps. B) At the end of the full implementation of the program, in order to understand the overall success of the program in achieving the set goals, ie the goals that have been prepared and formulated in the field evaluation stage. C) The time after the full implementation of the program, in order to find out the stability and effectiveness

of the results of the program (10). This type of evaluation is done in order to judge the desirability of the efficiency of educational activities. In other words, output evaluation is to relate the output and consequences of the system (training program) with the factors related to the field, input and process of this system in order to understand their value and desirability. The method of performing output evaluation includes specifying the criteria related to the output, the operational definition of the output, its indicators and how to measure them. In addition, data should be collected on the judgment of educational assistants (relevant, interested and interested people) on the desirability of output (10, 11). Qualitative and quantitative analysis is used for this purpose. Output evaluation is done in order to continue training activities, interrupt them, adjust or change some aspects of the desired. Aspects in addition, by evaluating the output, the effects of educational activities can be provided, both expected and unexpected effects (19). These questions are important for judging the findings: 1. What are the results? 2. To what extent have the needs been adequately met? 3. What action is required if the program deviates from its original path? (20).

Stufflebeam believes that the purpose of evaluating the output of measurement and judgment is to achieve the objectives set out in the field evaluation. This evaluation should not only gather information about the success of the program in achieving its goals; rather, these outputs should be compared with the output of another similar program. Output evaluation is very similar to cumulative evaluation in this respect (12).

CONCLUSION

Today, the process of educational evaluation in organizations is very important, which is done with the aim of preventing the loss of resources in educational systems. CIPP evaluation model is one of the most comprehensive evaluation models that is widely used in the educational system and is a holistic and comprehensive model that can systematically and comprehensively review a program in all initial, implementation and final stages. In other words, this template helps make decisions about the context, input, process, and output of the curriculum.

Limitations

One of the limitations of the research was the lack of access to the full text of some articles, which we had to remove from the study due to the need for strong studies.

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