

The Impact of Inclusive Pedagogy on Problem-Solving

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Abstract

The pedagogy of integration is a method of preparing lessons based on the analysis of meaningful integration situations, which works to create a competent learner capable of adapting to his society and facing all the obstacles that confront him. The integration process is not conducted within separate resources but rather within integrated situations, through which the learner utilizes appropriate knowledge, skills, and behaviors to find solutions to the situation. In this way, it intersects with the goals of the school and the tasks it undertakes. This involves equipping students with relevant, structured, and lasting skills that can be applied in real-life communication and problem-solving situations, enabling them to learn throughout their lives, contribute effectively to society, and adapt to change.

Keywords: Learner, Integration Pedagogy, Integration, Problem Situation, Problem-Solving

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Introduction

Integration is a process aimed at enabling the learner to give meaning to their previously isolated learning by linking it in a meaningful, integrative way. Hence, it has become essential to focus on what the learner should produce after a series of lessons or after completing one or more learning units. This production should then be practical, especially if applied to daily life, both now and in the future. Only then does learning become meaningful and beneficial, because the important thing is for the learner to be able to utilize their acquired knowledge to accomplish complex tasks and to recognize the usefulness of what they learn in school. This approach will allow us to move beyond the traditional view that sees the learner as a blank slate upon which the teacher writes whatever they wish, by simply imparting a set of knowledge that they memorize and recall when asked. This leaves the learner isolated, confined to their school, unable to venture beyond its walls, and disconnected from the world around them. Through his surroundings and his daily life.

1. The concept of integration pedagogy:

It forms the methodological framework for activating the competency-based approach. It seeks to make the learner establish relationships between learnings acquired in a fragmented manner, and coordinate them to use them in meaningful situations. Thus, the integration process is not within separate resources but within integrative situations, through which the learner invests what is appropriate from knowledge, skills, and behaviors in order to find solutions to the situation.

The pedagogy of integration into knowledge, from its utilitarian aspect, is influenced in this by the utilitarian doctrine introduced by the educator John Dewey. ‘Dewey views education as life itself, not merely preparation for life, and considers the educational process primarily a social one. He believes the role of the school is to change society, since students represent the society of tomorrow. This is why he rebels against old curricula, deeming them arbitrary, as they do not consider knowledge from a practical standpoint, but rather focus on the quantity of information the learner must memorize, and concentrate on achieving goals imposed on the learner that are far removed from their interests. For Dewey, education is a process of developing the learner's abilities. (al-Alawi).

Therefore, knowledge should be used as a tool for learners to confront situations and solve problems, not merely for memorization. What is acquired in school should play a role in life through solving various problems.

The foundations of learning in the pedagogy of integration also stem from the constructivist theory of psychology developed by Jean Piaget (1896-1980), a Swiss educator and psychologist who specialized in researching the origin of knowledge and the mechanism of learning. He succeeded in constructing a theory of knowledge known as cognitive or constructivist theory, which posits that knowledge is constructed, not

transmitted. Learners build it independently and gradually through their interaction with their society. It is a social negotiation process that requires a degree of control. (Theoret)

We also refer here to the socio-structural influence of Vygotsky. Vygotsky (1896-1934) was a Russian researcher who was able to build a theory based on the principles of developmental psychology, especially on the principle of interaction between the child and his surroundings. If Piaget focuses on the learner and his abilities in his interaction with the environment, then Vygotsky focuses his attention on the social component and its role in stimulating the learner's abilities. The situation that the learner accomplishes is under the guidance of the teacher, who is the one who unleashes his latent energies.

2. Fundamental Concepts in Integration Pedagogy

Integration pedagogy is based on several concepts, including:

a- Resources: These are the sum of knowledge that the learner mobilizes to solve a complex situation. Resources are classified into:

- Knowledge (les savoirs): Example: the subject and predicate, the five nouns, the imperative sentence, etc.

- Practical Knowledge (les savoirs-faire): Example: writing a letter, performing a song, expressive reading, etc.

- Behavioral Knowledge (Attitudes and Values): Example: Engaging in dialogue with others, visiting a sick person, helping someone in need, etc.

b- Competency

The novelty introduced by the competency-based approach lies in integrating learning within specific situations. Competency is the mobilization of resources, and this mobilization is what is termed integration.

The goal of learning is not merely to obtain a certificate, but to achieve competency, which Rogers defined as "the mobilization of an integrated set of knowledge, practical knowledge, and behavioral knowledge in an internalized manner in order to solve problem situations." (Roegiers)

Therefore, the competency-based approach can be considered an integrative pedagogy, since competency requires a process of recruitment and integration, for the purpose of utilizing it in meaningful situations. (Haji) Integration occurs in several areas, as previously mentioned. For example, when a merchant weighs and measures and skillfully uses addition and subtraction, we say he is competent. Similarly, a tailor is competent when he sews a garment, and a doctor is competent when he treats his patients, and so on.

What we can conclude is that competence is achieved through transforming learners' acquired knowledge into genuine skills. The relationship between competence and integration is strong, as "competence is achieved after the integration of acquired knowledge." (Bishou)

The problem situation: "It is a set of information, presented in a specific context (school, economic, social, cultural...) for the learner to use in an integrated way in order to accomplish a task." (Ali)

Therefore, a problem situation is a comprehensive, complex, and meaningful learning situation, usually proposed at the end of the learning process.

Problem situations are classified into:

- 1- Learning problem situation: Its purpose is to establish resources.
- 2- Integration problem situation: This is prepared for assessment, and its purpose is to ensure the development of the final competency or to practice integration at the end of the week.

C.1- Problem-solving skill: This is considered one of the essential skills that an individual needs in various areas of life. By mobilizing resources and prior knowledge, and following a structured and clear approach, dealing with any problem situation becomes easier and more effective. The integrative situation is among the activities through which prior knowledge is integrated, and because this situation is usually subject to testing the learner's competence, it is called the evaluative situation. "It is an evaluative problem situation, in which the learner proves, when solving it, the extent of the observed competence's growth, through the quality of the product presented and the level of success in recruiting the acquired resources in an integrated manner within the product itself." (Ali)

The integration situation, according to Xavier Roegiers, is formulated based on three components. (Roegiers, previous reference, p. 76 and beyond. See also: Al-Taher and Ali, The Integrative Position..)

Context: This describes the environment in which the situation takes place (social, economic, cultural context, etc.) and should be based on the learner's reality.

Supply Materials: These are the resources provided to the learner to accomplish the task. They may include texts, proverbs, sayings, images, maps, tables, audio recordings, etc., which facilitate the learner's task.

Instructions: These are explicit questions beginning with a command, directed to the learner to complete the task.

The situation must be formulated correctly, and we will present here the most important conditions for its formulation: (Roegiers, previous reference, p. 76 and beyond. See also: Al-Taher and Ali, The Integrative Position..)

- It should be appropriate to the competency being assessed (meaning it should align with the competency being studied, such as narration, description, or argumentation, and not be arbitrarily suggested).
- The learner should encounter a problem that needs to be solved.
- It should be complex, meaning it requires the mobilization of a range of knowledge, including practical and behavioral knowledge.

- It should be new to the learner, so it is not merely a reproduction of a previously solved situation.

- It should be purposeful, meaning it contains values that it seeks to develop and encourage.

- It should be relevant and connected to reality, and not simply a school scenario.

- It should challenge the learner's thinking by introducing confusing information that disrupts their thinking and stimulates their latent potential. □ To restrict the learner with a direct question, so as not to allow them to produce freely and randomly.

To be evaluable, aiming to assess competence based on the learner's output, and then to establish criteria for evaluation.

3. Benefits of Integration Activities

From what has been mentioned about integration activities, we can conclude their importance: they are personal, self-directed activities that give the learner an active role in the teaching-learning process. In integration activities, the learner continues to recall what they have learned in school and works to apply it to their lived reality.

Although the integration of acquired knowledge is a personal process, it only occurs after acquiring different learnings (knowledge, skills, and attitudes...). These constitute the foundation and starting point for the learner, because he will inevitably begin to search within his prior acquired knowledge. He cannot start from nothing, but through it he will reach a solution to his situation. "The adoption of the method of integrating acquired knowledge should not make us forget that the student needs to accomplish a set of ordinary learnings step by step, and therefore he should be provided with what is necessary in order to be able to achieve these learnings." (Bishou)

Integration is a beneficial activity that works to link life with the school, and this is only achieved by giving importance to situations that aim to develop competence. These situations should be meaningful, arousing the learner's interest and making him feel that what the school offers him is in line with his interests, problems, and everything he is exposed to outside this narrow space represented by the school. If the learner loses this feeling, a gap occurs and the chasm widens between him and his school. Perhaps this is what makes him bored and averse to it, because he does not gain any benefit from his learning, as he sees that the theoretical aspect that the school provides him has no equivalent in reality, so he loses his confidence in the latter to turn to what satisfies his curiosity and develops his knowledge outside of it.

In this activity, the student will also learn how to recruit, select, and coordinate a range of resources, depending on the situation. (Jonnyère) Because if he does not learn to integrate his resources and acquisitions, his learning will be limited to memorizing knowledge or completing school exercises, and he will not be able to face new situations in his life, and thus the goal of learning, which is to form a good, competent, and independent citizen, will not be achieved... Perhaps we can find many points of intersection between learning and integration, as both seek to make learners able to act in

their environment, and both aim to narrow the gap between what the learner receives in school and what he finds in society, and both aim to teach learners how to express their opinions and produce texts related to their daily lives, because "it is a big problem that huge sums of money are spent on raising children, but upon graduation a large number of them cannot use what they learned in their daily lives." (Ministry of National Education)

4. Integration Patterns

There are two integration patterns: (Ali)

-Vertical integration: This involves the learner initially acquiring a set of foundational competencies in a single subject. These competencies will be practiced throughout the program in various situations, depending on the nature of the tasks required. It is a simpler form of integration because it utilizes only one subject. For example, producing a text in a language activity or solving a problem in mathematics, etc.

-Horizontal integration: This type of integration gradually complements vertical integration. It is more complex because it requires the learner to master several competencies from different subjects. This is what we call a cross-cutting competency, such as citing verses from the Holy Quran and Prophetic Hadiths (Islamic Education) to express the importance of solidarity and cooperation in building society (Arabic Language).

5. Types of Integration Activities

Integration activities vary according to the subjects, grade levels, and competencies to be developed. "An integration activity is not based on solving a specific problem, but rather aims to develop a competency, which is formed and developed through a series of activities." Among the most important integration activities are the following: (Boutklai)

-Problem-solving activities: Problem-solving activities can be structured either to explore or to consolidate prior learning. In their exploratory function, they organize previous knowledge, while in their concluding function, the learner must solve the problem by drawing upon their existing knowledge and selecting the elements that will lead to the solution.

-Written or oral expression: This is an integrative activity specific to language learning. It can take various forms, but it must be functional. Examples include describing a person or scene, drafting an invitation to a party, writing the beginning or ending of a story, etc.

-Social Tasks: The task to be completed should serve a social purpose, meaning it should connect the learner's experiences with what they are learning. For example: writing an article for publication that draws public attention to the implementation of the death penalty for child abductors.

- Production on a Suggested Topic: Here, the learner is required to produce a complex personal work that utilizes a range of their acquired knowledge, which they will specifically address. This work may take several forms. In primary school, it may be an

essay; in secondary school, it may be a research project; and in higher education, it may be a thesis or dissertation. This work could also lead to the creation of an exhibition, the publication of a brochure, a magazine, etc.

- Field Visits: A field visit is considered an integration activity if it leads the learner to solve a problem by formulating a hypothesis and searching for information that allows them to prove or disprove the hypothesis. Alternatively, at the end of the visit, the learner must process and analyze the data they collected and draw conclusions from it. In such cases, the field visit can be described as an integration activity. □ Practical work in the laboratory: Practical work, such as field visits, is only considered an integration activity if it engages the learner and encourages them to use the scientific method (formulating hypotheses, collecting information, conducting experiments, observing results, etc.).

- Artistic innovations: Innovation is the very essence of an integration activity, as it involves the learner utilizing all their acquired knowledge. This refers to literary or artistic production (such as writing poetry and stories, drawing, music, etc.).

- Field training: This is a type of integration activity provided that the learner is given the opportunity to connect theoretical and practical knowledge, that is, to link what they practice during the training with what they have learned previously. □ The pedagogical project: Pedagogical projects represent real integration activities, provided that the students are active, by harnessing their acquired knowledge in accordance with specific objectives. For example: preparing a project to decorate the school's surroundings with plants and trees... The importance of the project in pedagogical practice lies in making learners responsible for their learning and placing them in a continuous development process, as well as giving meaning to the activities proposed to them, meaning that they will realize why they are learning what they are learning.

6. Objectives of Integration Pedagogy

Rogers believes that this approach aims for three main objectives: (Hassan)

- Focusing on the final competency that the learner will achieve after a specific period, rather than solely on the stated learning objectives that the teacher strives to convey.
- Giving meaning to learning, ensuring that the learner does not perceive what they receive in school as merely theoretical knowledge, but rather finds resonance in their daily life.
- The importance of demonstrating learners' acquired knowledge through relevant situations that enable them to apply their prior knowledge and newly acquired skills.

7. The Role of Integration in the Competency-Based Approach

Under previous approaches, the Algerian school system was not fulfilling its mission effectively because much of its content was irrelevant to the learner's reality. The focus was on quantity rather than quality of performance. Therefore, it became necessary for specialists to reconsider the educational system and its foundations, leading to the development of a new vision called the competency-based approach. This approach was

built on principles that sought to connect the school with its surrounding environment, redistribute roles between teacher and learner, and restore the learner's standing.

The competency-based approach was founded on the ruins of the objectives-based approach, which fragments the educational process. The competency-based approach came to integrate everything that is separate thanks to integration. It is “a method for preparing lessons and curricula based on the analysis of learning situations that seek to develop the learner's abilities and skills in order to integrate him into his environment, as well as identifying the required competencies and translating them into learning objectives and activities.” (Gharib)

This approach is based on a set of principles, the most important of which are: (Ali, , Competency-Based Pedagogy, Dar Al-Warsam, Algeria, 2nd edition, 2011.)

- The Principle of Construction: This refers to the learner's retrieval of prior knowledge and its connection to new learning.
- The Principle of Application: This means practicing competence, as competence is defined as the ability to act in situations where the learner is an active and engaged participant in their learning.
- The Principle of Integration: This is one of the important principles that distinguishes this approach from previous teaching approaches, as integration allows for the development of competence by linking the studied elements.
- The Principle of Correlation: This principle allows for the connection between teaching activities, learning activities, and assessment activities, all of which aim to develop competence.
- The Principle of Transfer: What is presented in school should not be limited to addressing problems within the school, because the effectiveness of the school is linked to the principle of the ability to utilize school knowledge to solve real-life problems in different situations. It has already been mentioned that competence is achieved after the integration of acquired knowledge. Therefore, the competency-based approach is based on the principle of integration, which aims to develop a competent learner who can integrate their acquired knowledge and effectively utilize it in their life. For this reason, integration pedagogy is considered the practical framework for implementing the competency-based approach. Its goal is to develop the learner's competence by linking previously acquired knowledge in separate instances to solve a complex situation.

Thus, the principle of integration forms the heart of competency-based pedagogy, which is characterized by its focus on the learner and its position as the center of the teaching-learning process. This approach enables the learner to utilize and apply their prior knowledge by integrating a range of knowledge, skills, and behaviors into meaningful situations.

8. The Role of Assessment in Integration Pedagogy

In integration pedagogy, the teacher should start with the learner (the focus of the teaching-learning process), linking their prior knowledge with new information.

Knowledge is a unified whole; learners cannot grasp information in isolation from what they have already acquired. The teacher should focus on learning that is meaningful to the learner, such as presenting situations and problems that the learner can later apply in their life. Here, the teacher's role becomes clear: to propose situations, provide guidance and direction, and help learners overcome obstacles, thus empowering the learner to play a central role in constructing their own learning.

In the objectives-based approach, the teacher is the source and transmitter of information, while the learner remains merely a passive recipient. Ultimately, the learner is expected to regurgitate the information without critique, commentary, or innovation, as if it were divinely revealed scripture. This is perhaps why the objectives-based approach is based on behavioral theory; the learner receives information unconsciously and without creativity—a conditioned response (stimulus/response)—and is evaluated based on their ability to memorize and recall knowledge, not on how they apply this information in new, integrative situations.

As for the assessment in the pedagogy of integration, it is not concerned with the efficiency of memorization as much as it is concerned with the efficiency of performance, and this is done by assessing the ability to integrate resources and employ them in each new problem situation that is significant for the learner. Such an activity that requires solving a problem is likely to develop the learner's mental skills, as it involves practicing higher-order thinking skills and all aspects of his personality, because the situation is a test that goes beyond the school environment to the learner's living environment - a test with dual benefit - and even the marking that used to reflect the results of term exams is now supported by the teacher's observations, daily quizzes, discussions, dialogues, and oral and written expressions... The teacher must take into account the individual differences that exist between his learners in achievement, as well as in terms of inclinations and motivation. Abilities, competencies, interests, etc., necessitate a diversity of pedagogical methods, teaching tools, and assessment techniques.

The teacher must also support learners facing difficulties, addressing their struggles regularly and effectively, valuing and reinforcing their successes, defending the learner's autonomy, and teaching them responsibility. Most importantly, the teacher must not deviate from the fundamental function of assessment, which is to adjust the course of the teaching and learning process, and must not reduce it to a supervisory or administrative function. (Al-Awar)

In the modern approach, assessment is linked to the objectives predetermined in the new curricula, which recommend the use of effective assessment methods that comprehensively encompass learners' knowledge, practical skills, and behavioral knowledge.

Furthermore, in the pedagogy of integration, assessment should accompany all stages of the learning process and its various learning phases. It contributes to facilitating the learner's acquisition of diverse resources and is a pedagogical procedure aimed at understanding the development of students' learning and supporting their learning.

The curriculum addresses assessment, which should go beyond simply evaluating learners' results through grades to identifying weaknesses and working to address them. It also distinguishes between three forms of assessment, based on the time frame in which they are conducted and their intended purpose:

Diagnostic assessment: Its characteristics include:

- It takes place at the beginning of a learning session to assess acquired knowledge and compare it with prior knowledge in the following session.
- It takes place at the end of a learning session to analyze and interpret the results in order to adjust and modify teaching and learning, and in this case, it is considered part of formative assessment.

Diagnostic assessment enables us to identify various deficiencies before embarking on the teaching-learning process, in order to determine the learner's prior knowledge and their readiness for the learning process.

Formative assessment: It is "the assessment that takes place during the learning process, measures the achievement of learners, and diagnoses learning difficulties in a timely manner before failure occurs." (education)

This type of assessment has received special attention from educators because it "seeks to help learners learn by facilitating the process of establishing resources and developing the targeted competency, which is achieved through the continuous verification of their acquired knowledge." (Al-Taher and Ali)

This type of assessment allows for the development of the learner throughout the academic year and the refinement of their learning through feedback. It considers mistakes as a learning process, encouraging learners to repeat attempts until they arrive at the correct answer without being graded. Learning in this type of assessment is continuous and built upon several lessons. This is perhaps what makes it the most important assessment in the pedagogy of integration; it is an assessment that must be integrated into the learning process because learners build their knowledge gradually, not cumulatively.

Summative assessment: This takes place at the end of an academic year or educational stage because it "provides an assessment of the development of the final competencies defined by the curriculum for the year or stage, and in addition to considering the results as an end in themselves,"¹ it enables the teacher to determine the extent to which the targeted competencies have been achieved.

However, assessment of all types remains of paramount importance in determining the progress of the teaching-learning process. For the teacher, on the one hand, it allows them to monitor adherence to the curriculum's objectives and their success in guiding students to achieve the targeted competencies. On the other hand, assessment provides the learner with indicators that enable them to understand their level of learning and how close or far they are from the desired goal. (Methodological Guide for Curriculum Development)

9. General Conclusion

In summary, the purpose of problem-solving is to develop and practice competence by teaching students how to integrate resources to accomplish a complex task. Problem-solving enables learners to demonstrate their ability to integrate and give meaning to their learning. Teaching students fragmented learning is ineffective unless they are encouraged to apply it within meaningful problem-solving situations. These situations allow us to answer the question: Is the learner able to effectively utilize their various acquired skills? Problem-solving also serves to assess the degree of competence development. A learner is considered competent to the extent that they can solve the problem-solving situations presented to them at school, as well as those they encounter in their environment that are related to prior learning.

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