

Vertical Integration of Grammatical Concepts According To the Spiral Curriculum Design

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Abstract

Teaching English language has changed in terms of content, pedagogy, assessment, and achieved learning outcomes. One of the new pedagogical and educational trend concentrated on the amplification of an integrated approach e.g. Integration is concerned with the linkages of information in order that student can develop a holistic overview of the curriculum. The present research paper aims at identifying the vertical integration between the grammatical concepts at the primary stage in curricula in Jordan. One classic example of a curriculum design model that the researcher used in this paper which gives particular attention to Continuity is the 'Spiral Curriculum. This idea builds on Bruner's (1971) work that emphasizes on building on grammatical knowledge. The study revealed that Action Pack series has an excellent continuity of grammatical concepts during the primary stage from the first grade to the tenth grade. It is clear that grammatical forms are explicitly taught for students to reach higher levels of academic language proficiency.

Key Words: Action Pack, vertical integration

Introduction

"Education is the acquisition of the art of utilization of knowledge" Whitehead, 1932:6 Gradual changes in the educational process over the last few years, has forced the educators to develop and design new curricula. Curriculum development should be a means of bringing all the variables that are required to construct a comprehensive and meaningful learning experience for learners. According to Pratt (1994, p.5) and Barrow and Milburn (1990, p.84), the word "curriculum" is derived from the Latin verb currere, "to run." Currere" meant a "racing chariot" or "race track." Then an extension was made to mean "the course of one's life." It was not until the nineteenth century that the term was commonly used in the educational field. Goodson (1994, p.111) describes of curriculum "as a multifaceted concept, constructed, negotiated and renegotiated at a variety of levels and in a variety of areas". Caswell and Campbell (1935) viewed curriculum as "all experiences children have under the guidance of teachers." This definition is shared by Smith and Orlovsky (1978), when they defined "curriculum as a sequence of potential experiences set up in schools for the purpose of disciplining children and youth in group ways of thinking and acting."

Curriculum aims to ensure that all students and learners develop the attributes, knowledge and skills they will need to flourish in life, learning and work. The word "curriculum" is used to communicate many different ideas and to signify many different things. This definition leads us to the view that discipline is the sole source of curriculum. Thus in our education system either at the schools or collage levels, in the schools, curriculum is divided into chunks of knowledge we call subject areas in basic education such as English, Mathematics, Science, Social Studies and others. In college, discipline may include humanities, sciences, languages and many more. So curriculum should consist entirely of knowledge which comes from various disciplines. This view reflects the complex and interactive nature of curriculum. Helsby, (cited in Peter 2001) stated that curriculum is a series of purposeful, intended experiences which can be divided into at least four components: content, organization, learning and teaching approach and assessment. The curriculum should be designed on the basis of the following principles: Challenge and enjoyment, Breadth, Progression, Depth, Personalization and choice, Coherence and Relevance. All these definitions lead to the importance of curriculum development.

Ornstein and Hunkins (1988) point out that curriculum development and curriculum design must be included in the scope. Curriculum development is interested in how curriculum is planned, implemented and evaluated.

Regarding the curriculum development, Tyler (cited in Richards 2001: 39) claims that the answers given to the following questions reveal the nature and process of curriculum development together with a model (productive model) for it: "(1) What educational purposes should the school seek to attain?(2) What educational experiences can be provided that are likely to attain these purposes?(3) How can these educational experiences be effectively organized?(4) How can we determine whether these purposes are being attained?". His highly influential model was modified by Taba's Interactive Model. Her model adds the idea of a needs analysis, and reflects more accurately actual iterative design practice. This model mentions four main components; aims, content, organization and evaluation.

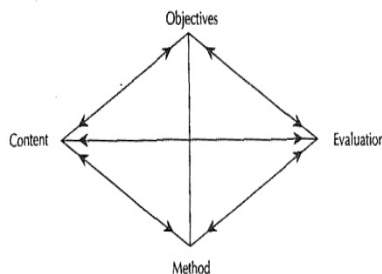


Figure 1: Taba's Interaction Model (Brady, 1995, p 81)

Tyler's above mentioned model is one of the most well known models. This model adopts a linear approach. It starts with a statement of objectives, followed by descriptions of content and method (selection and organization of teaching and learning instructional activities), and finished with evaluation, which generally includes assessment strategies, assessment tools and evaluation of the curriculum. It can be seen that curriculum development as a systematic planning of what is taught and learned in schools as reflected in school courses and it is all the experiences in the classroom that related to the teachers and students.

Chen (2002) stated that curriculum development involves two basic dimensions, horizontal and vertical integration. Horizontal and vertical integration are methods of organization common to most academic curricula. In vertical integration, each year's curriculum builds upon information presented in the previous years, while the horizontal integration means that different subjects within a grade level are coordinated to present different aspects of a topic simultaneously. It provides students with a greater depth of understanding about specific subjects than they would have otherwise.

Bruner (1977) recommended that the early teaching of any subject should emphasize grasping basic ideas intuitively. After that, he believed, the curriculum should revise these basic ideas, repeatedly building upon them until the pupil understands them completely. Bruner organized his ideas in the process of education into four key themes: The role of structure in learning and how it may be made central in teaching, readiness for learning, intuitive and analytical thinking motives for learning. He stressed that "The teaching and learning of structure [principles], rather than simply the mastery of facts and techniques, is at the center of the classic problem of transfer". (p.12) and indicated that "Mastery of the fundamental ideas of a field involves not only the grasping of general principles, but also the development of an attitude toward learning and inquiry, toward guessing and hunches, toward the possibility of solving problems on one's own" (p.20). This will indicate the need to transfer the learning skills and general idea that can be used as a basis for recognizing subsequent problems as variations of the original idea.

In order to reach 'learning how to learn', students need to learn the fundamental principles of a subject. They need to connect between ideas within subjects starting from what children know already and providing them with guidance that moves their thinking forwards. They should repeat the study of a subject at different grade levels, each at a higher level of difficulty and in greater depth. English is one of the basic subjects of the curricula in school as well as university (Matsuda, 2002). English is formally introduced in Jordan as a compulsory subject to the Jordanian learner in Government and private schools as early as the first class and it is taught over the rest of the school years up to the 12th class. Communicative language teaching has been established as the major practice in teaching English as a foreign language in Jordan for the well being of Jordanian citizens, and for the promotion of their good relations with other peoples of the world, (McLean, EL-Hassan, Cobb and Ibrahim, 1985).

CLT represents a flexible approach to teaching that is responsive to learners' needs and preference.

It is based on communicative language use, this means that this approach concerns with how to facilitate life-long language learning among our students. One of the major distinctive features of this approach is communicative competence with an emphasis on fluency and acceptable language use. Other distinctive feature is sequencing of materials determined by the content function and meaning that will maintain students' interest and competence. (Omaggio, 2001)

Diaz-Rico and Weed (2010), stated that "communicative competence is a feature of a language user's knowledge of the language that allows the user to know "when, where, and how to use language appropriately" (p. 58). Grammatical competence occupies prior prominent position as a major component of communicative competence. Grammatical competence acts to promote accuracy and fluency in second language production (Gao, 2001), and increases the learner s' proficiency (Diaz-Rico & Weed, 2010). Students need to acquire knowledge of, and ability to use the grammatical resources of a language. To achieve this goal, any curriculum should be built on some kind of vertical integration which takes the form of a coherent explicit, systematically structured and hierarchically organized.

One classic example of a curriculum design model that gives particular attention to continuity is the 'Spiral Curriculum'. This idea builds on Bruner's (1971) work that emphasizes building on prior knowledge. Spiral curriculum organizes the program into themes that require further depth as students' progress through the program. This approach is popular in many curricula e.g. health science curricula.

Ornstein and Hunkins.2009) stress that curriculum design should be to achieve: A) Scope. B) Sequence, C) Continuity, D) Integration E) Articulation and F) Balance. Scope refers to the breadth and the depth of content in a curriculum. This content includes both the knowledge domain and other aspects, such as, affective (values and attitudes) and Psychomotor (motor) skills. This aspect answers the following question: What does the teacher cover? Versus what does the student seek out and do? Scope is often associated with Horizontal curriculum design. The Sequence in a curriculum focuses on the order in which things occur. One approach to sequence is the logic of the subject matter; another approach is based on the way individual process knowledge (Ornstein and Hunkins, 2009). Continuity is often described as the vertical integration of the curriculum design. Continuity in a curriculum provides student with opportunities to revisit knowledge and skills in more depth as they progress through the years. One classic example of a curriculum design model that gives particular attention to Continuity is the 'Spiral Curriculum. Integration is concerned with the linkages of information in order that student can develop a holistic overview of the curriculum. To achieve the balance in the curriculum, it is important to balance the discipline knowledge with other more generic skills as cognitive, affective and psycho-motor Anderson (2001) whereas Barnett & Coates (2005) puts forward the idea of a curriculum focused on knowledge, action and self.

Figure 2: Balance in the Curriculum



Anderson (2001)	Cognitive	Psycho-motor	Affective
Barnett & Coates (2005)	Knowledge	Action	Self

We notice that one of the most important aspects to develop some coherence between the curricula is integration. Accordingly, conducting a study to investigate the importance of vertical integration between ideas within subjects starting from what children know already becomes a necessity to explain that learning subject structure involves supporting habits and skills which make it possible for students to make active use of the materials that they have come to understand.

Statements of the problems

'Most curricula are unfocused...There is a notable absence of structure and " Coherence"'.

Gardiner, 1996 (cited in Diamond, 1998, p85)

Bruner (2006p. 2) suggested questions about learning and teaching, "what should be taught, when and how, and how the structure of a subject could be structured". These questions give a picture of the fundamental ideas that how any curriculum should be designed or look like. Teaching a subject to students at any particular age involves presenting its structure in terms of the students' way of viewing things, which in turn depends on their stage of intellectual level. Bruner explained that students should learn the fundamental principles of a subject. Any curriculum should have the connections between ideas within subjects in order to achieve the teaching and learning outcomes. Action Pack is the main EFL textbook course used for teaching English as a foreign language for the Jordanian students in public schools. English language teaching is attempted and evaluated in light of the basic principles of communicative language teaching. The amount of practices and material should be arranged according to the level of the learners and their needs. Bruner (ibid) stated that

"Having grasped the subtle structure of a sentence, the child very rapidly learns to generate many other sentences based on this model. And, having mastered the rules for transforming sentences without altering their meaning ... they are able to vary their sentences much more widely. Yet, while young children are able to use the structural rules of English, they are unable to say what the rules are"

This indicates that structural pattern is needed to understand fundamental principles that make a subject more comprehensible. Beside, students may forget the details unless they are placed into a structured pattern.

To build the students' abilities to use the grammatical resources of a language, educators and teachers need to realize that curriculum should have an integrated approach which shows interdependence between the parts. Teachers need to realize that grammatical forms need to be explicitly taught for students to reach higher levels of academic language proficiency. Thus, the lack of integration between basic disciplines burdens both students and teachers which hinder the grammatical knowledge and competence.

Literature Review

Brynhildsen , Dahle , Behrbohm , Rundquist , Hammar (2002) assess the importance of vertical and horizontal integration in an undergraduate medical curriculum, according to opinions among students and teachers. In a questionnaire 102 faculty teachers and 106 students were asked about the importance of 14 different components of the undergraduate medical curriculum including vertical and horizontal integration. The findings revealed that students scored horizontal integration slightly but significantly higher than the teachers, whereas teachers scored vertical integration higher than student's .Beside, both students and teachers considered horizontal and vertical integration to be highly important components of the undergraduate medical program. they believe that both kinds of integration support problem-based learning ,stimulate deep and lifelong learning and suggest that integration should always be considered deeply when a new curriculum is planned for undergraduate medical education.

Jessica, Sharad, Helen & David (2008) investigated how stakeholders in a newly integrated curriculum – students, course directors and curriculum leaders – define integration and perceive its successes and challenges during its first year. They conducted interviews with curriculum reform leaders, course directors and medical students. Interview transcripts were analyzed for themes, which were compared within and across stakeholder groups. The results revealed that students highlighted the impact of integration on their learning and the challenges of sequencing and scaffolding content. Besides, both students and course directors focused on course monitoring and conceptual links for student learning.

Najlaa (2011) asserted in her study on the importance of starting a process of reform in the undergraduate medical curriculum to change it from the traditional discipline based to an integrated outcome based one. The reformed curriculum is organized around four themes; professional development, medicine and society, foundations of medicine, and clinical practice of medicine. These themes run throughout the six years program in horizontal and vertical integration. The reformed curriculum adopted a student centered, self directed learning approach that aims at increasing student's interest in active learning. To achieve this goal, students are divided into small groups that facilitate learning through tutorial classes in order to ensure active participation of all of them, face-to-face contact between each other and also direct communication between them and their tutor. This is carried out as a purposeful activity planned in the curriculum and determined in the learning objectives of each module. Team based and problem based learning is early introduced in parallel with the ongoing tutorial activities.

Wijnin , Cate, Schaff, and Harendza (2013) claimed that vertical integration (VI) has been recommended as an undergraduate medical curriculum structure that fosters the transition to postgraduate training.

The main aim of this study is to support the hypothesis that medical graduates from VI programs meet the expectations of postgraduate supervisors better than those from non-VI curricula. A questionnaire study was carried out among supervisors of postgraduate training programs run at Utrecht and Hamburg. The findings revealed that the two groups of supervisors did not differ in their judgment of their graduates' preparedness for work and level of knowledge. However, supervisors evaluated their graduates higher with respect to capability to work independently, solving medical problems, managing unfamiliar medical situations, prioritizing tasks, collaborating with other people, estimating when they need to consult their supervisors and reflecting on their activities.

Snyman and Kroon (2005) in their research project stressed on the need to develop and assay a model to facilitate vertical integration of knowledge and skills. The learning methodology proposed for the main outcome of the Odontology module included problem-solving as the driving force for the facilitation of vertical and horizontal integration, and an instructional design for the integration of the basic knowledge and clinical skills into a single learning program. This paper revealed that those teachers who represent the basic and clinical sciences and who participate in this learning program represents that this model is practical and can assist vertical as well as horizontal integration of knowledge.

Wijnen-Meijer M1, Cate OT, Rademakers JJ, Van Der Schaaf M, Borleffs JC (2009) conducted a study to determine whether a vertically integrated curriculum affects the transition from medical school to postgraduate training. They carried out a survey study among graduates of two cohorts of the Utrecht Medical School, who followed either the traditional or the innovative, vertically integrated, curriculum. Topics of the questionnaire were: (a) activities since medical school, (b) required amount of time and number of applications to get admitted to residency, (c) the process of making career choices. The results revealed that graduates from the vertically integrated curriculum had made their definite career choice earlier compared to those who followed a traditional program. Graduates of the new curriculum also needed less time and fewer applications to obtain a residency position.

From previous studies it has been observed that many of the humanistic curriculum such as the curriculum related to the languages is not analyzed according to the Bruner spiral curriculum. It is noticed that models of curriculum design are not widely known amongst academics curriculum.

Curriculum organization

Action pack is an English course for Primary, preparatory and secondary levels students in Jordan. it is of comprehensive language syllabus, presenting contextualized grammar and providing scheduled practice. Action Pack is seen as a rich resource for a wide range of topic-based content. The course also broadens students' general knowledge, through text-based and project work within the topics, and vocabulary and grammar development.

The Action Pack curriculum competencies are organized around four themes: Expected outcomes, resources & materials, associated activities, grammar and vocabulary. The English language outcomes are organized into four organizers, which correspond to the four skills of language use. These four main organizers are listening, speaking, reading and writing. it is very important to state what the students want to gain from the lesson. Many outcomes should be observable and explicit because they help to : (Brown 2000)

- "1- know what it is you want to accomplish,*
- 2- Preserve the unity of your lesson,*
- 3 -predetermine whether or not you are trying to accomplish too much, and*
- 4- evaluate students' success at the end of, or after the lesson."(P: 150)*

Within the resources and materials, it may seem a trivial matter to list what is needed to be taken or to be arranged to have in the classroom. It is so easy, in the life of a teacher to bring to the class a tape recorder, flash cards, posters, pictures, drawings or the workbooks that students gave you the night before. An activity may refer to anything that learners do in the classroom.

It refers to a reasonably unified set of student behaviors, preceded by some directions from the teachers, with a particular objective. Many of the activities will examine the role grammar and vocabulary play in promoting clear communication and close reading skills. Vocabulary knowledge is very important because it encompasses all the words we must know to access background knowledge, express ideas, communicate effectively, and learn about new concepts. Vocabulary is the glue that holds stories and ideas. Grammar has also played a major role for the students to learn and master English as in listening, speaking, reading, and writing skills.

No one can deny the prominence of grammar as an organizational framework within which communication operates. The ability of mastering grammar is considered as one of the learning goals in the Jordanian English Curricula. In the basic and secondary stage, teachers are required to build the grammatical principles. The main question here is how to help students acquire the grammatical competence. Brown (2000 p: 373) stated that "Grammar in a curriculum should be sequenced in a progression of easier to more difficult items." He also stated that:

"- grammatical categories are one of several considerations in curricular sequencing. - a curriculum usually manifests a logical sequence of basic grammatical structure (such as introducing the past perfect tense after the past tense , relative clause after question formation), but such a sequence may be more a factor of frequency and usefulness than of clearly identified degrees of linguistics difficulty."

Therefore, the researcher will conduct this study to evaluate the logical order for a grammar scope and sequence in Action Pack series. She will also want to investigate the appearance of grammar units, and define important concepts.

Purpose of the study

This study aimed at evaluating the logical sequencing of the grammatical principles in Action pack from the first grade to the tenth grade in the public schools in Jordan to find out to what extent there is a vertical integration during the grades transfer.

Question of the Study

1 –To what extent does our Jordanian curriculum manifest a logical vertical continuity of basic grammatical structure?

Definition of Terms

1. **Action pack:** It is an English course for basic and secondary levels students in Jordan. The materials are based on the general framework and outcomes of English Curricula in Jordan, where this language is regarded as a foreign Language.
2. **Vertical integration:** it is a logical sequence of basic grammatical structure (such as introducing the past perfect tense after the past tense , relative clause after question formation

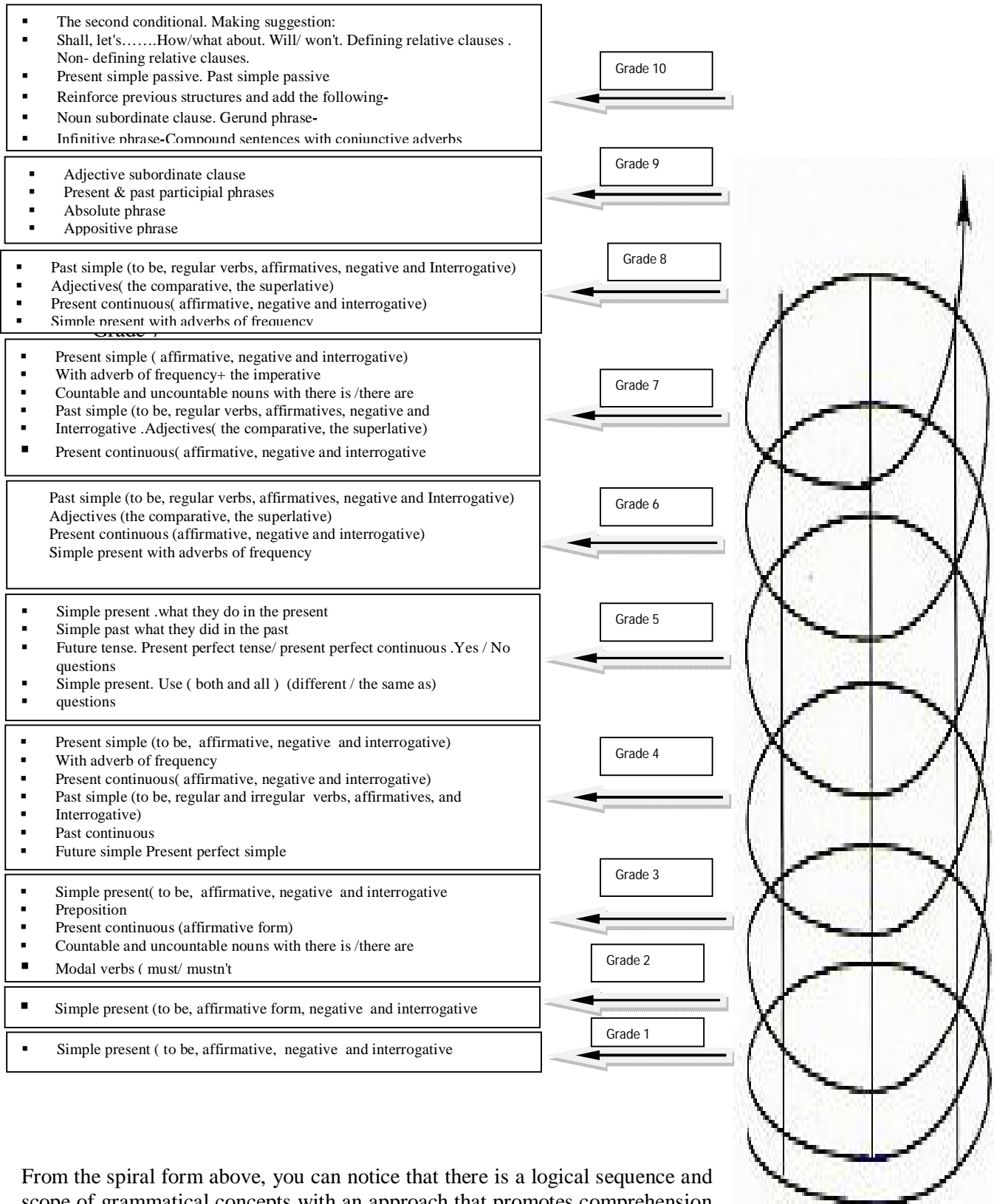
Significance of the study

Action Pack series is a twelve-level course for Jordanian students, leading them from the basic to the secondary stage. It is claimed that it is based on the most modern methods of teaching language, integrating of the four skills with a particular focus on reading and writing, combining topic - based approach with functional language practice, and careful attention to grammar and vocabulary. It is also claimed that it offers learners a clear and systematic approach to grammar with thorough practice. It is also claimed that there is an integration of language skills, teaching methodology, and assessment strategies. The curriculum sequence might be problematic during the grades transfer. For instance, a typical beginning level will deal with very simple verb forms, personal pronouns, definite and indefinite articles, singular and plural nouns, and simple sentences. On other words, the grammatical topics progress from simple to complex. The process of sequencing or integration has effects on education process, quantity and difficulty of learning contents, learning and teaching strategies and assessment strategies. as a result, this study of evaluating the integration will be an important attempt to evaluate the grammatical principles in the Students' Book of Action Pack at the elementary stage and the findings of the this study will be useful and fruitful to the ministry of education of Jordan, supervisors, teacher, students, parents and anybody interested in Action Pack series, especially those who are specialist and interested in designing and developing curricula. They should be aware that grammatical forms need to be explicitly taught for students to reach higher levels of academic language proficiency.

Discussion of the question

The English language curriculum in Jordan is one of the basic and compulsory school subjects that based on the General Guidelines and General and Specific Outcomes for English Language in Jordan of 2006. In accordance with the English Curricula Outcomes of the Jordanian MOE, the Action Pack materials have approached the grammatical concepts in an integrated way in terms of the tasks and activities for both learners and teachers. In this section, it is more crucial to discuss the possible vertical assignments in action pack.

Figure 3 shows the grammatical concepts in an integrated way.



From the spiral form above, you can notice that there is a logical sequence and scope of grammatical concepts with an approach that promotes comprehension rather than the knowledge of discrete concepts and discipline.

The communicative competence recognizes that overt grammar activities help students acquire the language more efficiently. Teachers teach grammar in context and encourage students to work out the grammar rules themselves.

Students can learn the grammar rules effectively through many activities. These activities have many functions that range from completing sentence, matching, working in pairs, expressing opinion, describing things and comparing, reporting information, discussing questions and writing some responses. In addition to the activities that related to their real life situations which promote meaningful communication. Students will not learn effectively without relating them to their real environment.

Without good grammar, spoken or written words lose much of their meaning and most of their value. Using in-class activities and discussions, Students are encouraged to work in teams to discuss situations or perform tasks and then share their findings with the class. The target learning proficiencies are listed in Table 1. Linking of all types of grammatical knowledge and experiences contained within the curriculum plan give our students opportunities to connect and enrich their grammatical competence presented and enable the individual to comprehend knowledge as unified.

structures	Level	Functions and skills
Sentences	word order with multiple subordinate clauses conjunctions for contrast, reason, etc conditional forms non-defining relatives participial clauses more reported speech embedded questions and tag questions	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> Completing sentence, matching, working in pairs, expressing opinion, describing things, comparing, reporting information, discussing questions, arguing, guessing and writing some responses </div>
Noun phrases	more complex pre and post modification word order of determiners definite, indefinite and zero articles possessives	
Verb forms, time markers, interrogatives, negatives and short forms	present perfect continuous past perfect, simple passive conditional <i>would</i> causative <i>have</i> and <i>get</i> more modals, phrasal verbs	
Adjectives	comparison collocations of adjective plus preposition	
Adverbs and prepositional phrases	concession collocates of verbs and prepositions collocates of nouns and prepositions adverbial phrases comparative, superlative adverbs more intensifiers	
Discourse markers	cause and effect spoken discourse markers	

Conclusion

A long-term goal of language education has been the successful integration of Basic English language skills and concepts. Such integration in a curriculum makes learning more relevant and provides students with a learning environment. It promotes learning of basic concepts available for use in context. Grammatical competence acts to promote accuracy and fluency in second language production (GAO, 2001), and increases the learner s' proficiency (Diaz-Rico & Weed, 2010). It is clear that Jordanian curricula are built on some kind of vertical integration which takes the form of a coherent explicit, and hierarchically organized to build the grammatical competence.

Implications for teachers

In the light of the results of the study, group of pedagogical implications can be presented: First, teachers of English should refer to English curriculum Guidelines to better understand the curricula goals and core abilities for their students. Teachers training programs should include the topic of promoting the continuity and integration of textbook series between different grades.

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