THE APPLICATION OF CONSTRUCTIVIST PEDAGOGY IN PAKISTANI SCHOOLS: AN ANALYSIS OF ENGLISH COURSE BOOKS

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ABSTRACT
The present study examines the degree to which English textbook of class 9th and 10th help (or hinder) students to provide constructivist practices in classrooms. The research is descriptive in nature which applies survey research design for the collection of study facts. The population of the research comprises of all the students of Government Secondary Schools of District Faisalabad. Only the students of the Grade-9 and Grade-10 are included in the study. A sample of 105 students of the Govt. Secondary Schools of District Faisalabad is selected for the study. Simple random sampling technique is used to select the sample. A structured questionnaire is designed for the students of Government Secondary Schools of district Faisalabad for data collection. The independent t-test is applied to make a comparison between the perception of grade-9 and grade-10 students regarding the role of English textbook in provision of constructivist practices in the classrooms. The results of the study represent no any significant variation between the grade-wise perceptions of students about the effectiveness of English textbook. The mean achievement score of study indicate respondents of the grade-9 are aligned towards the idea that English textbook is effective as compared to the ten grade students. Similarly, no any significant difference is revealed by the study related to grade-wise perception of students about the impact of English textbook on learners. The cumulative mean score reveals that most of respondents favor the idea that English textbook has effective impact on the learners. The grade-wise perception of students about the factor of efficacy of the learning tasks provided by English textbook is tested by the use independent t-test which also indicates no significant variation between the perception of Grade-9 and Grade-10 students about the efficacy of the learning tasks provided by English textbook. The mean score values also exhibited no any significant deviation in the perception of Grade-9 and Grade-10 students about the efficacy of the learning tasks provided by English textbook. The cumulative mean score reveals that a large number of respondents favor the efficacy of the learning tasks provided by English textbook.

**Keywords*:* Curriculum, textbooks, constructivism, social constructivism

1.1   Introduction

In recent times, the educators have encompassed more elementary theories of learning into "constructivism", a theory that employ comparatively heavy significance on the way how learners learn, and what can be the best way to "taught" them. Over the last two decades it is developed as a theory of learning of the twentieth century, constructivism has gained rapid acceptance in educators over grade levels (Fink, 1995; Wright, 2008). In contrast to the traditional learning theories which

observe learning as a procedure of transmitting knowledge to the learner, constructivism observes learning as a procedure of active development of knowledge by the learner.

Constructivism states that knowledge is not gained by learning from teachers, but by the mode of constructing meaning by the learner (Al-Abdulkareem & Hentschke, 2014). Vygotsky argues that the process of learning paves the way for the developmental activity and affects it. The social constructivist process of learning signifies the potential of learners as an active constructer of knowledge within a circle of learners (Vygotsky, 1962). Educators have been brought to the fundamental principles of constructivism, mainly to the social ones (Moore, 2005) where learner is observed as an active learner of constructing knowledge and not a passive receiver of transferred knowledge (Al-Abdulkareem & Hentschke, 2014). In general, the activities of constructivist learning have been outlined to encourage learners to rely on their own experiences to construct meaning actively, and not to gain passive understanding of knowledge relying on the teacher (Wright, 2008; Jones & Brader-Araje, 2002).

Over a short span of time, efforts have been underway to apply the social constructivist theories of learning to classroom practices, approximately from the last few decades (Richardson, 2003), and the studies in this field are few in number (Schunk, 2012). The constructivist theory is a theory of learning and not teaching, the components of social constructivist teaching have not been entirely and distinctively recognized (Richardson, 2003). Windschitl (2002) has argued that the theory of social constructivism has key implications for productive teaching; it is still to be growing to be a model of teaching effectively. It is still a challenge for the constructivists to apply this theory of learning to instructional practices. Constructivism continues to be distinguished and interesting as a key theory of learning and as instructional practice in educational settings. In the beginning of 1990s, the research on teaching started to announce classroom teaching applications recognized as constructivist (Richardson, 2003).

Different researches in different subject fields took place during that period of time where researchers concentrated on individual classrooms which includes (Simon, 1995; Pirie & Kieren, 1992; Kroesbergenet al., 2004) in the field of mathematics, (Rezaei & Katz, 2002) in the field of science, (Grobecker, 1996) in special education, (Blyth, 1997) in grammar, (Scott et al., 1992) in computers, (Chen, 2002) in physical education, (Fink, 1995) in reading. These studies collectively constitute a time of experimentation, when attempts were made and studies were organized to translate the theory of learning into a theory of teaching.

While relatively not much has been described on the attributes of a social constructivist curriculum, various studies widely inspected the main characteristics of the constructivist learning and the features of teaching approaches based on them (Hannafin et al, 1997; Anthony, 1996; Bevevino et al, 1999). Most of these researches and studies inspect matters related with the instructional inference of constructivism, but there is no study in our knowledge that has investigated the part of the textbook in pedagogy of constructivism (Al-Abdulkareem & Hentschke, 2014).

Despite of the varying nature in emphasis, wide consensus prevails about the fundamental principles of the theory. The social constructivist model of teaching needs educators to formulate an environment of learning that allow diverse scope for students to be actively involved with the experiences of learning, to make use of their previously acquired knowledge and skills, and to permit numerous descriptions of ideas and utilization of learning communities, Whereas, the formation of the social constructivist classrooms can change, they have much in common with each other in taxonomies of those activities (Al-Abdulkareem & Hentschke, 2014). Milner (2008) has listed four fundamental assumptions that describe and classify Vygotsky's social constructivist classrooms: (1) learning and growth are social and collaborative practices; (2) Vygotskian "zone of proximal development" can provide guidance for syllabus planning by keeping in mind the differentiation between what a learner cannot do without help and what he or she can do with help; (3) school learning not be separated from

the learning developed in real world and it occur in a meaningful context; and (4) out-of-school experience should be relative to the experiences of school. The principle of Milner do not differentiate considerably from other, taxonomies of constructivist learning which were presented earlier, like Wray and Lewis's (1997) presented four features for the constructivist learning: (1) learning is an interface amongst what is already known and what is to be learned; (2) learning is a social practice; (3) learning is a situated activity; and (4) learning is an activity of meta-cognition. Richardson (2003) presents the features of social constructivist pedagogy as follows: (1) concentration and admiration for the background of student and formulating comprehension of the beliefs regarding the components of the domain, (2) assistance of group communication with the motive of generating shared comprehension of a topic, (3) to introduce formal domain knowledge into the conversation that can be planned and often unplanned by using different strategies of teaching, (4) providing the chances for students to persuade, challenge, and polish previous understandings through taking part in activities that are designed for this objective, and (5) development of meta-cognition skill of the students. Despite of slight difference, while reaffirming the primacy of instructional goals these frameworks emphasize greatly on the active role of students in their own learning (Al-Abdulkareem & Hentschke, 2014).

Other frameworks place somewhat greater emphasis on student control of his or her learning. Freiberg and Driscoll (2000), for example, argue that constructivism employs three essential dimensions: appreciating the student's point of view, using questions that target higher order thinking, and appreciating the students' cognition rather than focusing on answers and products.

Richardson (2003) summarizes the characteristics of social constructivist pedagogy as follows: (1) attention and respect for the students' background and developing understandings of the beliefs about the elements of the domain, (2) facilitation of group dialogues that explore an element of the domain with the purpose of creating shared understanding of a topics, (3) planned and often unplanned introduction of formal domain knowledge into the conversation through different authentic teaching strategies, (4) provision of opportunities for students to determine, challenge, and develop existing beliefs and understandings through engagement in tasks that are structured for this purpose, and (5) development of students' meta-cognition skills.

The study of Pritchard (2017) states that: (1) Learning set in meaningful contexts rather than remote or random context, (2) motivate learners to review their previous knowledge about the new topic before undertaking on new teaching. Ask questions, (3) provide appropriate guidance to the learners, to find out for themselves, (4) determine the teacher's intervention, to motivate the thought processes of learners, (5) motivate learners to decide the methods and activities that they want to use in the course of their work, and (6) permit time to the learners to show up what they have learnt. All of these frameworks, in spite of slight differences, include the increased social involvement of students in their own learning while taking into account the primacy of instructional goals. The constructivist learning theory is mainly coherent; the characteristics of social constructivist pedagogy have not yet been exhibited as an extensive set of particular applications (Richardson, 2003).
Despite the different taxonomic categories that are presented above, there is consensus about the parameters of constructivist learning theory that frame the pedagogy of constructivism. The constructivist curriculum focus at developing the higher order thinking of learners rather than providing them scattered grains of information to memorize.

1.1.2   Problems in the Implementation of Constructivist Pedagogy

Despite the increasing acceptance and recognition of the theory of constructivism the development on successful application of the theory in schools are not clear. Constructivist teaching theory suggest students to raise questions, identify problems, discuss ideas with other classmates but practically the implementation is very difficult due to a variety of reasons, such as: Airasian and Walsh (1997) pointed out various wrong perceptions made by teachers who aspire to execute constructivist

techniques in their classrooms, including: determining that constructivism is just a behavioral technique, that it shifts the responsibility of learning from teachers to students and it less demanding of teachers. Social constructivism give great importance to the methods of teaching that allows an ongoing discussion between participants to solve the issue and share the views but it becomes difficult for the teachers and learners to implement it in class timings as they have to manage other tasks.

1.2   Statement of the Problem

While educators have considerable consensus about the significance of designing curriculum according to constructivist learning principles; they have not completely succeeded in executing the constructivist methods in classrooms. This is surprising that all over the world textbooks have important role for both the teachers and students, relatively not enough work has been done to provide a significant research base to the field. The criticism of social constructivism usually not focuses on the theory but largely emphasis on complications of implementation of these activities in the classroom. In Pakistan, due to various reasons the development and evaluation of textbooks has always been the subject of debate. The non-availability of explicit criteria for textbook evaluation is one of the biggest reasons in this regard. The students in Pakistan rely on their textbooks for studying and Pakistani textbooks are intended to support constructivist pedagogy. The study intends to survey the degree to which English textbook of class 9th and 10th help (or hinder) students to provide constructivist practices in classrooms.

1.3   Research Objectives
- To review the effectiveness of English textbook.
- To find out the impact of English textbook on learners.
- To identify the efficacy of learning tasks provided by English textbook.

1.4   Research Questions
- Does the textbook support new learning on the base of previous learning; it provides social interactive discussions with or without teacher and gives a meaningful context for learning to help in developing the learners' awareness of their meta-cognition.
- Does the textbook value the point of view of students; it provides activities to pose questions to value their thinking and to help them in making active learners.
- Does the textbook offer learning contexts that create social interactions; they provide activities that lead to interact with and learn from their peers and encourage the learners to use their experience to actively interpret their relative meanings.

1.5   Significance of the Study

Textbooks are the collection of knowledge and concepts and they are considered as one of the principal teaching and learning tools used in schools. Textbooks are a resource for both the teachers and learners and provide excellent learning aids. Textbooks open the door to a world of knowledge and experience and offer students new and potentially interesting facts. Even in the current era of advance technology we still use textbooks. English is taught as compulsory subject in public and private schools of Pakistan from class one to intermediate and for each class English textbooks added in curriculum. Keeping in view the significance of textbooks the study intends to explore whether the English textbooks of class 9th and 10th fulfill the constructivist techniques and methods in class room or not. This study may be significant for:
- Students
- Teachers
- Curriculum Designers

- Education Policy makers
  Academic Researchers

2.1   Literature Review

Jean Piaget, a very big name in the field of psychology proposed the theory of cognitive constructivism (Powell & Kalina, 2009). The focus of Piagets's constructivism is with the individuals' construct of knowledge (Powell & Kalina, 2009; Ültanir, 2015). Cognitive constructivism is a theory of learning that is grounded in cognitive science which inquires the cognitive architecture of humans (Moons & Backer, 2013). Cognitive constructivism emphasizes the practical role of student in management of knowledge through independent seeking and implementation of information (Kasemsap, 2015). Conscttructivism and cognitivism are those learning paradigms that inspire the environment (Moons & Backer, 2013). The theory of cognitive constructivism aims that human should construct their own knowledge instead of giving them information which they immediately comprehend and use (Piaget, 1952). Piaget's theory of cognitive constructivism has two parts "ages and stages". This theory states that children can and cannot understand at different stages (Kumar & Gupta, 2009). Piaget also asserts that the process of learning does not take place passively; it turns up by active construction of meaning (Amineh & Asl, 2015).

Piaget has described the basic unit of cognitive analysis scheme that allude to assembled action or thought. Assimilation is the process to understand new experience in terms of existing schemes; accommodation occurs when existing scheme is revised due to the complexity of new information (Fosnot & Perry, 2005; Kumar & Gupta, 2009). Piaget identified four cognitive developmental stages from birth to about the age of 14 to 16 (Babakr et al., 2019) which are sensory motor stage, preoperational stage, concrete operational stage, formal operational stage (Amalia & Khoiriyati, 2018; Huitt & Hummel, 2003).

2.1.2   Social Constructivism

The basic of social constructivism is that learning is constructed through social interaction and it is shared rather than an individual experience (Vygotsky, 1978). The emphasis of social constructivism theory is upon the interaction between the learner and others (Pritchard, 2017). It is an epistemological view of learning which emphasize on the active role of learners in the interpretation of reading and construction of knowledge (Pundir & Surana, 2016). According to Vygotsky (1978) the only good learning is that whose development is in advance. Constructivism is not just an instructional approach, it is a theory which suggests that how learners come to know and it provides a model of learning and knowing which is quite useful for the purpose of education (Airasian & Walsh 1997).

Vygostsky's theory stresses on social interaction because it can improve the cognitive ability and he further states that culture has vital impact that can accord to children's intellectual development (Amalia & Khoiriyati, 2018). One of the most illuminating themes in Vygotsky's social construction is the theory of zone of proximal development (Fani & Ghaemi, 2011; Pritchard, 2017; Verenika, 2004; Vygotsky; 1978). The idea of zone of proximal development (ZPD) lies in the theory of social constructivism which stated that a learner is able to work effectively and the range of skill can be developed through adult guidance and peer collaboration (Fani & Ghaemi, 2011; Pritchard, 2017; Verenika, 2004; Vygotsky; 1978). The social constructivism theory and the idea of zone of proximal development are regarded as the theoretical underpinning of scaffolding (Verenika, 2004).

Wass, Harland and Mercer (2010), explored the perspective of students of learning as critical thinkers and the ways in which it was scaffolded in zone of proximal development during the year (2009-10) in New Zealand by using Vygotsky's developmental model of ZPD provided a framework. The

studies highlights that at first students relied on conventional methods of learning but gradually they extended their ZPD for critical thinking and it suggests that research should be the integral part of education from 1st year.

Verenika (2004), furnished an analysis of scaffolding in the connection to the concept of Vygotsky's ZPD in (2003) in Australia and finds out that the term scaffolding remained popular and it provides an easy grasp. The deeper understanding of scaffolding and theoretical underpinning can promote its creative use. Kussisaari (2014), discovers on the collaborative teaching learning that it supports teaching practicing and knowledge creation in Finland. The study explores what type of activity gives support or obstructs collaborative development. The study states that ideation; development of ideas and question raising support collaborative development and excessive agreement hinders successful collaborative development.

3.1 Methodology

A structured questionnaire containing 20 questions was designed for the students. Researcher visited the requisite schools himself for the collection of factual figures about the study. The collected data has been analyzed to trace out the facts as follows.

3.2 Nature of the Study

The present study examined the degree to which English textbook of class 9 thand 10th help (or hinder) students to provide constructivist practices in classrooms. The research was descriptive in nature which applied survey research design for the collection of study facts. Descriptive research aims to accurately and systematically describe a population, situation or phenomenon. It can answer what, where, when and how questions, but not why questions (McCombes, 2020).

3.3 Population

The population of the research project was comprised of all the students of government secondary schools of District Faisalabad. Only the students of the Grade-9 and Grade-10 were included in the study.

3.4 Sample of Study

Sampling is the very significant part of the research project. Sampling is done in order to obtain rapid and accurate accounts from the representative sample of given population. A sample of 105 students of the Govt. Secondary Schools of District Faisalabad was selected as follows:

Table 3.1: *Grade-Wise Classification of the Sample*

Sr. No.	Grade	Sample Size
1	Grade-9	55
2	Grade-10	50
	Total	105

3.5 Sampling Technique

There are different techniques which are used to select sample for research purpose. Mostly simple random sampling is used which is comparatively easy provides unbiased results. So, simple random sampling technique was used to select the sample. The term random is applied to sampling does not mean haphazard or causal selection but implies strict objective proposed of drawing a sample.

3.6 Tool of Research

A structured questionnaire was designed for the students of Government Secondary Schools of District Faisalabad for data collection. The five point likert scale was used in the questionnaire. The questionnaire was based on close ended statements. The first section of the questionnaire pertaining to the review of the effectiveness of English textbook contained eight statements, second section of the questionnaire related to the impact of English textbook on learners, comprised of seven items, whereby section three regarding the efficacy of learning tasks provided by English textbook, contained five statements.

3.7 Reliability of Research Tool

The questionnaire of the study was assessed in order to check its reliability for the research. The chronbach alpha statistics was applied for the purpose. The reliability index of the questionnaire was r=0.91 which was quite high to be used in the study.

3.8 Collection of Data

Researcher prepared one hundred and five copies of questionnaire for the data collection. Researcher visited the different Government Secondary Schools himself and approached the students and distributed the copies of questionnaire among them. Only the students of Grade-9 and Grade-10 were approached for the purpose of data collection. Researcher shared the purpose of the study and provided necessary details about the filling of the questionnaire with the students. Researcher remained present during the data collection from the respondents. The filled questionnaires were obtained back at the spot personally by the researcher.

3.9 Data Analysis

Data was tabulated and analyzed with the help of independent t-test to make a comparison between the perception of Grade-9 and Grade-10 students regarding the role of English textbook in provision of constructivist practices in the classrooms.

3.9.1 Delimitations
- Only textbooks of class 9th and 10th are selected for study.
- The data is only selected from students.
- Only English textbooks are focused.
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4.1 Data Analysis and Discussions

The study intends to survey the degree to which English textbook of class 9th and 10th help (or hinder) students to provide constructivist practices in classrooms. The collected facts from the respondents have been analyzed in terms of independent t-test by comparing the responses of grade-9 and grade-10 students as follows:

- **Factor-wise analysis of the respondent's perception regarding provision of English Textbook constructivist practices in the classroom**

Table 4.2: *Effectiveness of English Textbook*

Grade	N	Mean	S.D	df	T	P	Total	
							Mean	S.D
Grade-9	55	3.60	0.768					
Grade-10	50	3.48	0.668	103	0.846	0.399	3.54	0.721

Table 4.2 represented the grade-wise perception of students about the factor of English textbook effectiveness. The data value of *p*>0.05 showed no any significant variation between the perception of grade-nine and grade-ten students about the effectiveness of English Textbook. The mean achievement score of grade-9 respondents was (M=3.60, SD=0.768), and grade-10 respondents mean score was (M=3.48, SD=0.668) indicating t-value, t (103) = 0.846, and probability score was = 0.399. The mean score values also exhibited no any significant deviation in the perception of grade-9 and grade-10 students about the effectiveness of English Textbook. The cumulative mean score (M=3.54, S.D=0.721) revealed that most of respondents favoured the effectiveness of English textbook. More than half of the participants of the (M=3.54, S.D=0.721) favoured the effectiveness of English textbook in student learning.

The study of Lodhi et al. (2019), investigated the importance of English textbooks being taught at intermediate level (Grade-12) in different schools and colleges in Punjab. The study findings showed that the textbook being taught at intermediate level were not up to the mark to achieve the basic objectives of the target language. It was irreconcilable with the demands of confidence development and ornamental language skills. Furthermore, it was proposed that textbooks must be revised from time to time to achieve certain learning objectives of the language. The evaluation of the textbook showed that book was lacking innovation, learner' interest, relevant material/content as well as adequate skills.

Table 4.3: *Impact of English Textbook on Learners*

Grade	N	Mean	S.D	df	T	P	Total	
							Mean	S.D
Grade-9	55	3.72	0.790					
Grade-10	50	3.64	0.660	103	0.576	0.566	3.68	0.729

Table 4.3 expressed the grade-wise perception of students about the factor of impact of English textbook on learners. The data value of *p*>0.05 showed no any significant variation between the perception of grade-nine and grade-ten students about the impact of English Textbook on learners. The mean achievement score of grade-9 respondents was (M=3.72, SD=0.790), and grade-10 respondents mean score was (M=3.64, SD=0.660) indicating t-value, t (103) = 0.576, and probability score was = 0.566. The mean score values also exhibited no any significant deviation in the perception of grade-9

and grade-10 students about the impact of English Textbook on learners. The cumulative mean score (M=3.68, S.D=0.729) revealed that most of respondents favoured the idea that English textbook effects the achievement of the learners. Most of the respondents of the present study (M=3.68, S.D=0.729) supported the idea that English textbook effects the achievement of the learners.

The study of Park, Plas and Brunken (2014), found that innovative textbooks were helpful in improving student achievement if they address day-to-day teaching practices and well-structured co-operative learning. Engaging learners more closely in research practices by including primary literature could be useful approaches to textbook improvement. However, the studies also highlighted the importance of teacher preparation and the need for further research.

Table 4.4: *Efficacy of the Learning tasks provided by English Textbook*

Grade	N	Mean	S.D	*df*	*T*	*P*	Total	
							Mean	S.D
Grade-9	55	3.72	0.803					
Grade-10	50	3.71	0.654	103	0.106	0.916	3.72	0.732

Table 4.4 expressed the grade-wise perception of students about the factor of efficacy of the learning tasks provided by English textbook. The data value of *p*>0.05 showed no any significant variation between the perception of grade-nine and grade-ten students about the efficacy of the learning tasks provided by English textbook. The mean achievement score of grade-9 respondents was (M=3.72, SD=0.803), and grade-10 respondents mean score was (M=3.71, SD=0.654) indicating t-value, t (103) = 0.106, and probability score was = 0.916. The mean score values also exhibited no any significant deviation in the perception of grade-9 and grade-10 students about the efficacy of the learning tasks provided by English textbook. The cumulative mean score (M=3.72, S.D=0.732) revealed that a large number of respondents favoured efficacy of the learning tasks provided by English textbook. A large number of the study participants (M=3.72, S.D=0.732) favoured the efficacy of the learning tasks provided by English textbook.

The study of Saeed and Imtiaz (2021), examined the efficacy of the English textbook of grade-8designed by Punjab Textbook Board. The role of textbook for the development of four language was determined. It was found that grade-8 English textbook was a complete book as it covers almost all the essential domains including objectives. It was noted that language of the textbook was used keeping in view the student level. The English textbook was found a very effective tool for the learning of English for the students. The book was very supportive to improve the knowledge of the teachers and the students.

5.   Conclusion and Findings

5.1   Effectiveness of English Textbook

The grade-wise perception of students about the factor of English textbook effectiveness was examined by applying independent t-test. There was no any significant variation (*p*>0.05) between the perception of grade-nine and grade-ten students about the effectiveness of English Textbook. The mean achievement score of study indicated respondents of the grade-9 were aligned towards the idea

that English textbook was effective as compared to the ten grade students. The cumulative mean score (M=3.54, S.D=0.721) revealed that most of respondents favored the effectiveness of English textbook.

5.2   Impact of English Textbook on learners

The study also determined the grade-wise perception of students about the impact of English textbook on learners. The data value of $p>0.05$ showed no any significant variation between the perception of grade-nine and grade-ten students about the impact of English Textbook on learners. The mean score values also exhibited no any significant deviation in the perception of grade-9 and grade-10 students about the impact of English Textbook on learners. The cumulative mean score (M=3.68, S.D=0.729) revealed that most of respondents favored the idea that English textbook effects the achievement of the learners.

5.3   Efficacy of the Learning tasks provided by English Textbook

The grade-wise perception of students about the factor of efficacy of the learning tasks provided by English textbook was tested by the use independent t-test. The data value of $p>0.05$ showed no any significant variation between the perception of grade-nine and grade-ten students about the efficacy of the learning tasks provided by English textbook. The mean score values also exhibited no any significant deviation in the perception of grade-9 and grade-10 students about the efficacy of the learning tasks provided by English textbook. The cumulative mean score (M=3.72, S.D=0.732) revealed that a large number of respondents favored efficacy of the learning tasks provided by English textbook.

5.4   Future Research

It is important to understand that Matriculation program is significant for the students of Pakistan. This is a small scale study limited to only two English textbooks of grade 9th and 10th. However, keeping in view the constructive nature of the data achieved through this research project, on larger scale similar studies should be undertaken, and that the experiences and views of teachers and learners from all over Pakistan should be included in the research.

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