

Envisaging Meditational Principles and Dynamic Assessment Practices as an Alternative Approach to the Learning Potential of Ethiopian School Children

Teka Zewdie

Abstract: *The issue of enhancing the child's learning potential has attracted the attention of researchers in its innovative role to improve the traditional teaching and assessment practices in the schools. Hence, this paper provided a theoretical view on the integrative roles of mediational principles and dynamic assessment practices as drawn from the current thoughts of developmental psychology. The paper also highlighted the major challenges of the current Ethiopian educational practices to meet the learning potential of school children. The possibility of integrating principles of mediation and dynamic assessment practices, especially on the low achieving and/or special children of the Ethiopian school system as either a model of research or practice, was thus proposed as an alternative approach to the challenges.*

Background

It is tempting to characterize the role of education in the developmental goals of Ethiopia as tangential, exercised throughout its historical records, with the formal and procedural forms, but without fully addressing the child's cognitive potential. In fact, as the history of Education in Ethiopia shows, the issue of referring to the child's learning potential has been virtually muted in both the philosophical and practical strategies in the traditional as well as the modern schools of Ethiopia.

Reference to the Ethiopian traditional centers of schooling, i.e. the church (Kalewold, 1970) and the Koranic (Husein, 1988), indicates that these schools have somehow contributed "to the child's adaptive skills that the socio-cultural values of the times demanded". With their special feature of rote learning, these schools had championed for such common objectives as: the teaching and dissemination of the religious doctrines and practices, the training of the clerical class, and the spread of literacy. In these schools, children were trained to observe and imitate the master or the peer-models and to recite the materials to be mastered. Assessment was often carried out through direct observation of the students' demonstration. This was basically done with the

assignment of the student as his teacher's substitute while the latter was away, and with the warning that he would be evaluated by the children who would report of his performance when the master teacher resumed his job (Husein, op cit, 1988). Learning in these traditional schools was usually continuous, and at times a life-long process of observation and recitation for spiritual goals without necessarily entailing repetition of grades. Some scholars of this traditional learning posit that its major role was the cultivation of self-discipline, endurance, and a non-utilitarian value in the student (Kalewold, 1970). Apart from these alleged features of these centers, one may in fact be forced to pay attention to the specific and positive values of observation and recitation practices had enabled the learner to have an automatic control over the learned tasks. Recitation may particularly be taken as "over-learning" in the western psychological sense, yet it had made the learner to produce his skills "reflexively".

Ironically enough, some non-western cultures like Japan have even made use of their traditional values of observation and recitation, noting the benefits of maintaining **continuity** of their traditional educational philosophies and practices

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with modern overtones. As Tanuichi (1986) amply illustrated, this practice has, for instance, its dramatic effect of enabling two-or three –year-old children to play the violin and become master musicians at five. Unfortunately, one observes this lack of continuity in the educational system of Ethiopia, as witnessed through the several visions and revisions of its curricula within its brief period of modernity.

Despite the evolution of the modern curricula through the various models, however, the issue of addressing the child's learning potential, through appropriate teaching and assessment procedure did not get adequate attention. This could, in effect, be directly and readily noted from the current high dropout rate of children. As movingly expressed in the following quotation, the current learning experience of elementary school children of Ethiopia has been of low quality, resulting in a significantly high percentage of repeaters just at grade one:

"...the number of children who survive up to grade 2 is between 45% and 63%. Those who survive up to grade 6 are between 19% and 44%, and those who survive up to grade 12 is between 7% and 12%. There are two points we would like to emphasize here: 1. The number of survivors up to grade two is very low. This indicates that there are high dropouts after or during grade 1 of primary schools. Why is this so? We believe this is a point of concern for all educationists. 2. Out of 100 students who start grade 1, after 12 years of schooling, only about 7-12 complete grade 12. This is a very low figure. Again the question is why is this so? What can educationists do about it?" (MOE-EMIS, 1995).

According to the further report of the Ethiopian Ministry of Education, teachers of primary level training predominantly handled the task of teaching at the primary and secondary levels, and more girls than boys were noted as either repeaters or dropouts throughout the school levels. The high dropout rate was especially pronounced in grades 1 and 6 of the primary school; and the proportion of total wastage attributed to repetition and

dropout for both boys and girls was 32.3% and 67.7% respectively.

Even, the recent UNESCO (2015) national review report on education indicated high student dropout rates as one of the critical problems in almost all levels of the Ethiopian school system where, for instance, a very large percentage of the student population enrolled at grade one was not able to complete its primary level education of grade 1 - 4, implying that the gain in access has unfortunately not resulted in student learning achievement. In addition, Yaikob (2014) has shown an increasing trend of student dropout and repetition rates in the selected secondary schools of Oromia region, attributing the causes more to such distal factors as school facilities, illiteracy rates of the parents, shortage of textbooks than to the proximal factors of student-teacher ratio, student-teacher interaction and the classroom environments. As the mid-term UNESCO (2015) evaluation report of intervention programs on teachers' pedagogical and assessment skills also showed, a need for more work in enhancing the assessment behaviors of almost 50% of the trainee teachers by at least engaging them in continuous record keeping of their students' progress.

Furthermore, the educational system was also noted currently catering its special services to the learning needs of only about 2000 deaf, blind, intellectually challenged children. Millions of these 'special' persons are virtually outside the school system. Still further, the educational system is characterized by a high teacher-child ratio of 63:1 at the kindergarten, and 53:1 in the primary grades (MOE-EMIS, 1995), implying a notably low intensity of teacher-student interaction.

Apart from issues related to quality of teaching-learning processes, research in the area of testing is still in its infantile stage in Ethiopia (Desalegn, 1995). One of the bottle-necks may be related to the large amount of material and human input that such essential conditions of adaptation, standardization and the development of norms could entail (Lakew & Starr, 1974). Consequently, most elementary school teachers of Ethiopia have

little knowledge in the plan and preparation of achievement tests (Shenkute, 1998). In spite of the several flaws even in the planning and preparation of such tests (Girma, 1997), the few isolated and independent studies of student's performance in Ethiopia mainly deal with achievement than with the learner's potential.

Studies related to assessment, were mostly focusing on identifying some of the learner's isolated variables that affected the performance scores than a more comprehensive look at the problems. For instance, Mathewos' (2000) study on samples of secondary school students of Addis Ababa, showed a hierarchy of such significant and influential conditions as the learner's gender, days of absence from school, family income, age, and length of study time on academic achievement. Yet the study visualized the initiation of counseling services in its recommendation. Similarly, Ademe & G/Meskel (1989), examined students' performances against such characteristics as activity-passivity, and found no significant difference between the performance of the active and passive students, and between genders, except at grade ten. The subsequent recommendation was "the search for optimal solutions concerning student-teacher ratio and average class size." In fact, Fisseha (1992) administered the Raven Progressive Matrices Tests on samples of student drawn from various schools, socioeconomic strata and grade levels and found significant mean score differences by type of schooling, SES, and grade level but not by sex, hinting "research on a wider population for further investigation of the patterns of abilities of Ethiopian subjects."

If there is still an alarming rate of student dropout and repetition in the current state of teaching and assessment in Ethiopia, there is a great cause for concern for students' school failure.

- Why are students failing in the school systems of Ethiopia?
- How is the current learning and assessment scenario seen in the Ethiopian schools and classrooms?

- What is a mediated learning experience as contrasted with the procedural formal teaching in the classrooms?
- What is meant by dynamic assessment and a child's learning potential?
- Is the school addressing a child's learning potential, or merely focusing on students' strengths and limitations through procedural classroom activities of teaching and assessment?
- Can the high dropout rate of the early school child point to the teaching-learning scenario, and to the assessment practices?

Indeed, a low educational efficiency is a concern of both the Government and the population at large. In fact, this concern has prompted some scholars to question the relevance of the existing educational system unless it addressed the developmental needs of the majority children. Some look for a pragmatic type of education if the learning needs of children who are outside the formal school contexts had to be addressed (Tekeste, 1996). Others prefer a 'bottom-up' approach to a 'top-down' one if the quality of educational services is to be upgraded (Seyoum, 1996). Despite the strengths claimed in the current educational policy to fulfill the learning needs of children (Amare, 1996, Ministry of Education, 1996), the issue of enhancing the learning potential has never been noted in both the theoretical tenets and the practical operation of education in Ethiopia.

Indeed, *quality of education*, should not only be a catchy concept, but a motto of current educational practice in the Ethiopian educational system. This is simply because of the fact that addressing the learning potential of the early child means "changing the teaching procedures of the school system" (Tzuriel, 1997). This has implied a new look at both mediation and dynamic assessment practices. This theoretical piece, therefore, attempts to highlight the significance of pursuing research along this line. It envisages the maxims of mediational principles and dynamic assessment

practices for the enhancement of learning potential in the school systems of Ethiopia. With a current state of educational services in the Country, the relevance of at least a more general and 'expertise-free' form of mediated learning experiences and dynamic assessment practices in the schools of Ethiopia is very timely indeed. In fact, teacher-child mediation, and dynamic assessment practices have been regarded as "the education of the day". Both are novel practices as contrasted with the formal teacher instruction and procedural testing style currently in use. These recent approaches to a child's learning are today being felt in such developing countries as Indonesia, Thailand, and Ethiopia (Klein & Hundeide, 1989).

But what is in the concept of mediation and dynamic assessment? and how could these be integrated to address the learning potential of the school child? The following is a brief theoretical recourse into each of these.

Theories of Mediation

The notion of mediation is actually rooted in the Vygotskian socio-historical and cultural theory of child development (Vygotsky, 1966; 1978). It could also be inferred from the works of several prominent figures as Bruner, 1986; 1990; Rogoff, 1987; and Valsiner, 1987; and it has been the basis for the further development of several innovative approaches of assessment and mediational practices (Guthke, 1992; Tzuriel, 1996, Hessels, et al, 1997).

With reference to the Vygotskian theory of child development (Vygotsky, 1978), the concept of the *Zone of Proximal Development* implied that mediation of the child's cognitive potential has to reflect developmental, process-orientation, and causal-dynamic relations, rather than focusing on static or end product of performance. The theory emphasized the child's interactional world in its socio-cultural contexts. It also underscored the possible enrichment of the child's learning capacity through interaction, guidance, and joint-partnership with experienced adults (Rogoff, 1989). Furthermore, the theory also implied

enhancing a healthier mode of transaction in the homes and schools of children.

Thus, the concept of "the zone of proximal development" ushered an era of mediational principles and dynamic assessment practices in the quest to meet the learning needs of the school child. It presupposed that a child's cognitive potential has to be enriched with the further interposition of adults in order to provide mediated learning experiences of: meanings, explanations, and encouragement that are sought to develop the child's "appetite for knowledge". Vygotsky (1978) defined the ZPD as "a distance between the actual development level of the child as determined by his/her independent problem solving, and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers". The concept implied a breakthrough not only in changing formal instruction, but also in pointing at the limitations of the traditional tests of intelligence that were more often characterized as static, chiefly focusing on what has been achieved from the learning, without considering a student's failure as a process of 'successive approximation' toward a learning experience (Guthke, 1992). It heralded the improvement of strategies especially in the identification of the learning needs of children. The concept also implied a close and intimate link between assessment and mediation in meeting the child's cognitive competence at solving tasks (Lidz, C., et al, 1997).

In a similar vein, Feuerstein, (Feuerstein, et al, 1991) also noted the limitation of the traditional Piagetian type of assessment. Consequently, he came up with the theory of structural cognitive modifiability, SCM, that linked the roles of mediated learning experiences, MLE, with dynamic assessment practices, thus influencing current research thinking and practices on child's cognition significantly (Feuerstein, 1979; Guthke, 1992; Lidz, 1992; Tzuriel, 1997).

The theory of mediated learning experiences (MLE), is actually construed as a part of the wider theoretical framework, the structural cognitive

modifiability SCM (Feuerstein, et al., 1991). The basic premise of the theory is the capacity of every individual child to modify his/her cognitive structure “irrespective of the three barriers of change: etiology, critical period, and severity of condition” (Feuerstein, R. & Feuerstein, S. 1991). The theory underscored a transactional model, where learning, as Vygotsky also viewed, had to be collaborative. The theory of mediated learning experiences was thus defined as “a quality of interaction between the organism and its environment. This quality is ensured by the interposition of an initiated, intentional human being who mediates the stimuli impinging on the organism” (Ibid. p. 7). Similarly, Klein (1992) defined human mediation “as a conscious attempt of an adult to adjust his or her behavior and modify the environment in a way that will ensure that the child can benefit from it, i.e., focus on it, perceive, or understand and respond”.

The role of the mediated learning experiences theory, MLE, is basically understood as a bimodal perspective of cognitive development, where both the direct exposure of the individual to stimuli and mediated learning experiences should coexist to ensure human modifiability. For the MLE theory, a mere and direct exposure to stimuli does not ensure cognitive modifiability. It argues that it is mainly through the mediated learning experiences that the child’s cognitive needs are realized for richer and expansive meanings and purposes in life.

Thus, in its departure from the more direct type of the Piagetian perspective, the MLE theory stresses the modifiability of a child’s world of meanings through the interposition of adults (i.e., teachers or parents) who can help organize, expand, and competently interpret. Further refinement in the definition of the MLE theory reveals that it is not mere interposition of the adult. It does not provide the accidental “dos” and “don’ts” to the child, nor is it to be equated with the traditional direct teaching of skills to the child. ” A mediated learning experience, as distinct from the direct learning through the senses, occurs when the environment is interpreted for the child by another

person who understands the child’s needs, interests, and capacities. Mediated Learning occurs when an adult “takes an active role in making components of that environment compatible with the child” (Klein, 1992).

MLE is also interpreted as not necessarily implying verbal interaction only, as all modalities of interaction, gestural, kinetic, mimicry, and modeling can also constitute quality of interaction, provided that the mediator is conscious and well intentioned in the process. As further stressed, MLE is a process of a varied and richer type of adult-child interaction which takes into account some specific principles in order to “close the loop” of stimuli-mediator-mediatee-relationships (Klein, 1991).

In the discussion of the “complete” principles of MLE, Feuerstein (1991) proposed several parameters, which were divided into the *salient and reinforcing* components. The salient component of the MLE is comprised of such criteria as *intentionality and reciprocity, mediation of meaning, and transcendence*. These criteria were considered to be the basic criteria of MLE, and also to be common to all cultures, ethnic groups or socio-economic strata. On the other hand, and in contrast to the salient ones, the reinforcing components were considered to be task dependent and vary from culture to culture (see Feuerstein, et al, 1991 for further details). Klein (1989), justifies with empirical evidences that these parameters could be reduced to 5 criteria without losing their two basic salient and reinforcing properties. These are:

1. **Intentionality and Reciprocity:** deliberate acts of selecting, sequencing, exaggerating, accentuating of stimuli by the parent or the care giver for the reciprocal response of the child through vocal, verbal, or non-verbal forms of behavior.
2. **Mediation of Meaning:** acts of expressing affect by the parent or the care giver in relation to objects, animals, concepts or values through facial expressions, gestures, tone of voice, verbal

expression of affect, classification, labeling and valuing of the child's or adult's experience.

3. **Transcendence:** adult's acts directed toward expansion of a child's cognitive awareness beyond the immediate need through explanation, comparison, or contrast.
4. **Mediation of Feelings of Confidence:** acts of adult's verbal and non-verbal expressions of satisfaction with the accomplishments of the child, and,
5. **Mediation of Regulation of Behavior:** acts of adult's control of the child's behavior with modeling, demonstration, and/or verbal suggestion.

The Concept of Dynamic Assessment

If mediation is so viewed as above, what is meant by the term dynamic assessment? In essence, mediation and dynamic assessment are complementary activities that are geared to enhance the child's learning potential. Dynamic assessment refers to the type of assessment that involves the thinking, perception, learning and problem solving strategy of the child, usually with the active instructional/guidance input of the adult during the problem solving process (Guthke, 1992; Guthke, et al, 1997; Tzuriel, 1997; Waters & Stringer, 1997). In its departure from the Piagetian practices, dynamic assessment procedure posits that asking a child to solve demanding tasks independently does not measure potential, unless instruction or guidance using mediational principles is employed. From the perspectives of dynamic assessment, the mainstream tradition of measuring intelligence is one-sided stressing individual achievement more than individual potential. It was characterized as merely looking back to skills already learned in the past, instead of addressing 'student failures' through experiences of gradual mastery, and stressing capacities that could be projected into the future.

In contrast to the one-sided static tests, dynamic tests are assumed to produce change in the examinee, because they employ mediational principles within the testing situation so that learned strategies and cognitive principles are

implemented in the solution of difficult problems. According to the advocates of the dynamic assessment practices, a child's potential would show up if tasks/problems to be solved are calibrated through adult guidance; and if adults interpose themselves between the child and the learning stimuli, actively, deliberately and systematically during the testing situation. Thus, dynamic assessment skills are basically the theoretical outcome of the zone of proximal development concept and the structural cognitive modifiability theory that were developed by both Vygotsky and Feuerstein respectively.

The essential feature of dynamic assessment strategies is the employment of teaching and assessment strategies concomitantly in a test-teach-test fashion and with the integral position of mediational principles in the process (Elliot, & Lauchlan, 1997). They could be provided in a school assessment procedure and could be designed in a play-based situation (Walters & Stringer, (1997), but have to incorporate principles of mediation. The practice of dynamic assessment was reported to be quite new in the Netherlands (Hamers, 1997), but the several forms of the procedures have been noted as promising in the diagnostic, placement or remedial programs of the schools.

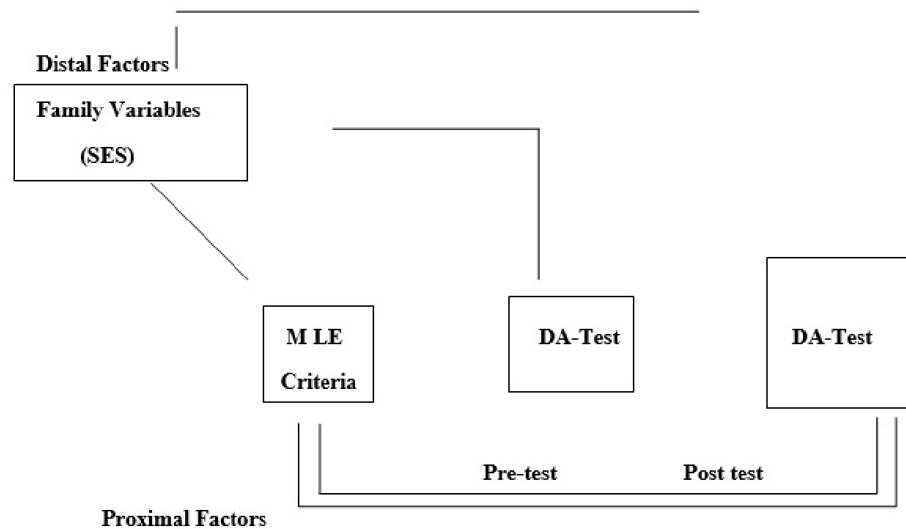
In the USA, however, Lidz and her associates (Lidz, et al., 1997) have administered some modified scales of several dynamic assessment measures. According to the reports, significant findings regarding the high achievement results of 66 multiply disabled children on maths and reading posttest scores were recorded. Their remarks underscored the significance of high intensity of mediation for such a group of children if the goal of meeting their learning potential was to be assessed. In addition, Lidz's (1992) extensive review highlighted the role of mediation, especially that of verbalization and elaborated feedback in the improvement of performance.

In Israel, the impact of Feuerstein's theory has engaged several researchers in mediational and dynamic assessment activities. For instance,

Tzuriel & Kaufman (1997) administered mediational principles and several measures of performances on a group of Ethiopian immigrant children and compared the results with those of Israeli born children at grade one. The findings revealed significant group differences indicating the superiority of the Israeli born children during the pre-teaching test. However, there followed a gradual narrowing down of the gap between the Israeli and the Ethiopian samples, when the

posttest scores employed dynamic assessment with mediational strategies. Dynamic assessment practices were also developed in Germany, incorporating some mediational principles, offering a high potential in the prediction of the “future scholastic progress of the low-achieving pupils” (Guthke, 1992, 1996, 1997). Briefly our view of integrating the above practices could be illustrated in the following model of Tzuriel, (1997):

† A Model Integrating the MLE Principles and Dynamic Assessment (DA) Test with Family Variables (Tzuriel, 1997)



- ▶ This model offers a framework for integrating dynamic assessment and mediational principles. It underscores the importance of mediation to facilitate dynamic assessment procedures in practice. Furthermore, the model offers the possibility of considering both the family (the distant factors) and the mediational principles (the proximal factors) for further exploration of the child’s learning potential in a foreseeable research.

Discussion

It can thus be stated that the emergence of the neo-Piagetian thinkers integrating mediational principles and dynamic assessment strategies

grew very much from the very concept of Vygotsky’s ZPD, *Zone of Proximal Development*.

Some authors have in fact regarded the Feuerstein’s theory of SCM, structural cognitive modifiability theory as a new version of the old Vygotskian view (Guthke, 1992). In the several theoretical concepts so discussed above, "the enhancement of the zone of the child's proximal development" (Vygotsky, 1978), "the modification of the child's cognitive structure" (Feuerstein, 1979), or "the learning potential of the child" (Guthke, et al., 1995; Guthke & Stein, 1996) were shown as highly related terms. Common to all these concepts is the basic conceptualization of a child as an active constructive and meaning-making human being

who can develop his/her potential with the assistance of adults or experienced partners (Feuerstein R., 1991; Bruner, J., 1986, 1990; Valsiner, J.1987; Rogoff, B., 1989).

Vygotsky's view of cognitive potential is broader than what the traditional intelligence tests profess. It encompasses the entire socio-educational history in which the child is embedded. Furthermore, it underscores the form of learning that had to be collaborative, and the importance of collaborative interaction and assessment procedures that had to be dynamic. Thus, this neo-Piagetian view is observed influencing the process of the child's learning and the assessment procedures in schools. At its core, this view calls for a collaborative form of child-teacher interaction and dynamic assessment of the learned skills. It further appears to exert major influences in the current school practices, as it has basically implied a move from the traditional ways of formal and procedural instruction, and a goal to meet the child's learning potential.

Currently, dynamic assessment procedures are emphasized to determine the child's learning potential. As Elliot & Lauchlan, (1997) commented, learning potential has nowadays become a catchy concept. It has become "a philosopher's stone", promising drastic solutions, especially for the millions of school children in the developing countries.

Indeed, the introduction of mediational principles with dynamic assessment practices are not free of some concerns. Critics have in fact pointed to several challenges of the new paradigm. For instance, there is the issue of qualitative (Feuerstein, 1991) versus quantitative approach to assessment (Guthke, 1997), where Lidz (1996) has characterized both approaches, as respectively representing the "clinician's dream", and the "statistician's nightmare" (Elliot & Lauchlan, 1997 referred). Other issues are related to the transfer of the reported gain performances of the child to life situations outside school. Some question whether one could administer the tests to children with learning disability so comfortably.

Others express their reservation in tapping the child's affective factors during the process of the assessment (Elliot & Lauchlan, 1997).

In spite of these views and concerns, however, the practices of mediational principles and assessment strategies promise new thinking in meeting the learning ability of children in the schools. Both mediational principles and dynamic assessment strategies are today felt as essential components of current school thinking, and may shade more light if applied in their combinations. It thus appears that the blend of mediational principles with a dynamic assessment strategy is too powerful to be overlooked especially in light of the low-achieving children of Ethiopia. In effect, an integrative approach of assessment and intervention in the schools is a novel practice, ending the age-old separate existence of the two procedures, either conceptually or methodologically (Tzuriel, 1997).

Recommendation

In light of the above, the author of this paper would like to draw the attention of schools to the following points.

In the first place, in a bid to improve teachers qualification through better pedagogical and assessment skills, the current practice in teacher-child relations needs to be replaced with mediational principles and dynamic assessment practices if the ultimate goal of learning is geared more toward cognitive enhancement, than emphasis on simple achievement.

Secondly, it is essential to hold the instructional strategy of addressing the learner's potential at least as a guiding principle of our education.

Thirdly, but more significantly, the initiation in the practice of integrating mediational principles and dynamic assessment strategies in the Ethiopian school system is not only important, but is also the order of the day. This is so, because the motto of modern education is "quality and child learning potential"! This vision would in

fact serve as an alternative approach to the current educational services, and for the eventual facilitation of human power potential of the Country at large.

Finally, pursuing either research or practice along this line is especially important for a country like Ethiopia, where the loss of a large segment of otherwise promising population is to be witnessed, unless a solution is sought. Such an alternative approach may especially address the learning potential of a large segment of low-achieving school population if considered seriously and initiated early.

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