

# *Application of the New School Model in the University in the Country Side Program of UNAN-MANAGUA, 2015*

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## **ABSTRACT**

This article is based on the level of implementation of the New School Model in the Universidad in the Country Side program, with the application of active methodologies, where the center of the teaching-learning process is the student. The use of modular guides is important in the application of the model. The study was performed based on the engineering in sustainable rural development, in the municipality of El Tuma La Dalia, department of Matagalpa, Nicaragua. The universe under study are students and also teachers who teach the fourth class of sustainable rural development and tries to check the level of implementation of the New School Model. In the research, survey, interview and observation were executed. This model is being developed at a good level, but still prevail some features of traditional education.

## **INTRODUCTION**

The University program in the country side, by UNAN-MANAGUA, through the Regional Multidisciplinary Faculty, Matagalpa, Estelí and Chontales, implements training for rural youth in the career of engineering in Sustainable Rural Development, defining as methodology the New School Model. Colbert (1999) expresses this model promotes an active, participatory and cooperative learning concentrated in the students, a relevant curriculum related to the daily life of the student; a calendar and flexible systems evaluation and promotion; a closer relationship with the community, where transforming processes are carried out; an emphasis on participatory

development of values, attitudes; a more effective and practical teacher training; a new role of the teacher as facilitator; a new concept of modular interactive texts or guides.

As elements of the pedagogical model, they have active education principles that develop learning skills, analytical thinking, creation and research, problem solving and decision making, among others. The pedagogical process in the classroom supports teachers to meet different levels of student achievement through the use of modular guides.

Colbert (1999) states, that inside of the pedagogical strategies that considers the model, the modular guides evaluates academics goals and the students are promoted through a system of flexible promotion, they guide the student learning process and get adapted to their needs and the characteristics of the rural environment; the facilitator-teacher performs the control of different groups of students, the relation between university and community is stimulated by actions orientated to identifying community needs and by gathering information from rural communities.

To promote the collaborative learning, according to Rogoff (1993), the model promotes different forms of work from the modular guides to ensure individual production and appropriation, the confrontation between pairs, work in small groups, orientation and deepening by the teacher through targeted moments and conducting plenary socialization that allows feedback and generalization.

Diaz (s.f.) says that this kind of work contributes to go from a teaching paradigm centered on teacher, a paradigm in which students are the main characters of their own learning process. He adds that a good learning environment should facilitate the autonomous and collaborative work. He keeps saying that teaching to think autonomously means that, in different student's interactions, they learn to think by themselves.

Questioning is to open a range of possibilities, in which students have the possibility to express through words and interpret social, productive and natural realities, from their point of view and the conditions in which they are involved and propose an ideal situation, that could be a possible solution to a faced problem, from the knowledge they already have.

On the other hand, Calzadilla (2010) indicates that learning in a collaborative way allows the character to receive feedback and know better their rhythms and learning styles, which facilitates the application of metacognitive strategies to moderate the performance and improve the performance; moreover, this kind of learning increases motivation, and generates on the characters strong feelings of belonging and cohesion, through common goal identification and shared powers, which allows to feel "being part of", stimulating their productivity and responsibility, which will directly affect their self-esteem and development.

For the National Education Ministry (2010) teachers must take advantage of all those different opportunities to help and motivate students to gather efforts in the realization of activities and projects as a team work. For this, it adds, they must propose activities in which the realization requires the team work, but, at the same time, makes possible the individual development. It adds that, the collaborative groups can be organized by small groups, in some cases these conformations could be at random and some others could be intentionally organized by the teacher, according to criteria, as the difference of abilities, socialization possibilities and the phenomenon of citizen competencies.

Torrego (2011) shows that an adequate learning environment must ensure a favorable space for both teacher and student interaction and between the students themselves, so the communicative process in which the learning process is multiple and knowledge and creative activities are proposed in modular guides, teacher context dialogic intervention and life experience in every one of the students. Continuous saying, that in the classroom organization students must be involved, because it helps students to feel the class with a comfortable place.

For this, Torrego adds that there are different favorable activities like: to exhibit the student's work in an appropriate work, to request them to mark with the name of themselves in the assigned place to leave their personal objects, or write their names in poster papers and the charges they have in the different student's work.

According to Mogollon y Solano (2011), some of the roles that students have to take and which must rotate consistently, have been proposed and which have been considered successfully in this component are: coordinator, time keeper, teller, researcher and assistant.

They express that these roles are distributed on a rotating basis, looking for students to develop different skills and assume responsibilities tailored to their level of learning. It is of fundamental importance as directed by Colbert (1999), for whom learning modules should be promoted from their didactic structure, the use of the community as a problematic resource and as a pretext for learning.

The New School Model, according to the University of Caldas (2011), divides its modular guides in five moments, they are: **A.** Experience, **B.** Scientific Foundation, **C.** Practice, **D.** Application and **E.** Complementation or Expansion.

The different moments that constitute the methodological process, states the University of Caldas, are directed to the integral formation of the human being, under the critical humanistic approach. It adds that it is where the cognitive, procedural and attitudinal are interlinked, which will allow the student to perform in a contextualized manner in particular contexts.

**The evaluation.** How is it evaluated? According to the National Bureau of Education of Colombia (2010), in the New School Model, the evaluation is understood as a training activity, since that has a guiding direction for the various actors involved in it: students can understand the learning strategies that they use, and the teachers can identify if they are or not achieving the objectives that have been proposed and reflect on teaching strategies they are using.

For the National Bureau of Education in the New School Model, it is recognized the evaluation as an ongoing process in which several moments can be identified. It adds, that the first one is related to recognize that students have a prior knowledge, they do not reach the educational institution lacking of knowledge, skills or values, either because they have developed skills in the interaction at the home, with their parents, in pedagogical actions performed in previous years, or in multiple knowledge stemming from new technologies of information and communication.

Another fundamental moment of evaluation, as exposed by the National Bureau of Education, is monitoring what is happening in the classroom on the day-to-day. It expresses, that the evaluation is not an activity isolated from what has been teaching not the way it has been done. In this sense, it is essential that the teachers approach the students to motivate them, to learn about the

strategies they used in their learning and to guide them in the identification of their mistakes and achievements. It is an opportunity to meet one of the fundamental objectives of education, which is to teach “how to learn”, and every time it has to do make the student aware of the learning process that is s/he undertaking.

Finally, the National Bureau of Education, considers that the student learning should be valued reflected in products, whether in written or oral assessments, participation in class, work in groups, exhibitions, turning in of essays, pedagogical or productive projects, drawings, inquiries in the community, theatrical presentations, role-plays, songs.

These activities must be understood as a synthesis of the appropriation of concepts and skills development, with which students are showing evidence of knowing and knowing how in context.

## **MATERIALS AND METHODS**

This is a study carried out on fourth-year students of engineering in sustainable rural development of Tuma, La Dalia, Matagalpa department and executed by the Multidisciplinary Regional Faculty of Matagalpa. It consists of evaluating the application of the New School in the university program in the country side of UNAN-MANAGUA 2015.

The research is not experimental, cross-cutting or transactional and quantitative descriptive type, which allows describing the way in which the New School Model is working in the university program in the country side with the formation of sustainable rural development.

### **Population and Sample**

The populations under study are fifty students enrolled in the fourth year of the training program of engineering in sustainable rural development, in the municipality of Tuma, La Dalia, more five teachers who taught them the subjects or modules corresponding to the second half of the year 2015. As the population is small, it was decided to take it all for sample.

### **Technics for gathering information**

For the collection of primary information the following techniques were used:

- **Interviews:** Interviews were done to the five facilitators-teachers who taught the subjects or modules in the second semester.
- **Survey:** the survey was applied through an instrument in the form of questionnaire to the fourth year of engineering students in sustainable rural development of the University in the Country Side, in the municipality of La Tuma, La Dalia.
- **Direct observation:** it was done to prove how it is implemented the New School Model in the classroom. Entire classes were observed randomly of different teachers of different modules.
- **Information processing:** to analyze the information it was used the described statistics, principally the arithmetic mean and the information is expressed as a percentage. The information processing was done through SPSS version 19. Five variables were studied in total which were: modular guides use, role of the facilitator-teacher, classroom organization, collaborative work implementation, evaluation of teaching- learning process.

## RESULTS AND DISCUSSION

### 1. Use of modular guides

The modules, which were developed in the second semester of 2015 of the engineering in sustainable rural development of fourth year, were: applied research, waste management and transformation, rural development paradigms, agricultural legislation and alternative animal health. Students and teachers affirm that both use modular guides in the development of the subject. All of them got the digital modular guides from teachers. The 78 % of students printed it out to study. Most of them do it because they do not have a computer.

Students state that these modular guides of each subject were given without any charge during the first semesters of their formation, thanks to the financing they received from European Union, nevertheless, in the last two years they continue having a formation for free and that they also still receive a free digital photocopy of the modular guide, they assert that it is necessary to have it printed. Most of the time, due to economic problems, they have to make an extra effort.

All of teachers and students (100%) confirm that each unit of modular guide is structured in five pedagogic moments that are: experience, scientific rationale, exercitation, application and complementation. But a 30% of students express that in previous semesters the modular guides were not complete because units only had experiences, scientific and exercise rationale and practice. Others units had the scientific rationale merged with the exercise. They consider that the part of application of each modular guide unit allows them that relation with their family and community, which enriches their training and rescue what is being done in the community.

The 84% of students state that modular guides are very extended to be developed in the time scheduled for each subject. In this case, they stated that the paradigms of rural development and waste management and transformation modules proved to be very broad.

All teacher consider that the modular guide are not rigid documents, because they are free to modify some of the training and application activities, according to the environment characteristics and those of every community. Besides, they can freely do the practical activities, according to the freedom offered by the productive units where they plan take students to practice. For example, the farm so called "La Canavalia" in San Ramon, Matagalpa, offered the conditions for the teacher of animal health alternative to lead students to carry out practical activity in this area and get the objectives proposed.

The revision of the modular guides showed the compliance of the five pedagogical sections, defined for the New School Model. The 60% of teachers say that they receive the model divided in units and not as a whole to have a general idea of the module and in the same way teachers give them to the students, complete. To this concern, they were told that the modules are built as they are being applied and performed. For this reason it is that teachers receive the modules unit by unit, as they are being built.

In the meetings of the national team of the curricular transformation of the engineering in sustainable rural development, of UNAN- Managua, it assigned every one of the subjects to do the modular guides and the program (micro-curricular), but sometimes, the people in charge of the preparation of the guides do not do it or delay their elaboration. Students were asked about the

modular guide's quality, in which the 100% are satisfied, but the 46% claims that all modules should contain a glossary of unfamiliar terms.

## **2. Role of the facilitator teacher**

About teacher's role in the New School Model of the University in the Country Side program, it can be described based on what was expressed by students, teachers and observations. When a unit of each module is started, the teachers lead the completion of the moment of the experience. Generally, the groups formed by students are respected (five students per group), who are engaged in activities aimed in the modular guides.

Key informants affirm that there is no orientation to rotate functions within groups, as for coordination, equipment manager, timekeeper, rapporteur and researcher. Even the groups are not reminded to name these functions within the group.

They assert that the time keeping of a particular work group is led by the same teacher and the responsibility and is not given to students internally in each group.

After the work in group, there is a general plenary, where teacher is the moderator, and timekeeper and clarifies the doubts. In general the 100% of students and teachers say that the plenaries are limited by the time and the teacher has to limit the students' participation to fulfill with the topic planned in every meeting. A 62% of students certify that these plenary meetings are always dominated by the same students, giving little participation to those students who are shy.

On the other hand, the 100% of the teachers are trying class participation to be massive and so giving the opportunity to all. In the observations it was found a high participation of the students and the teacher tries the majority to participate, but there is approximately 20% of students that want to dominate the participations, but it is noticeable the intervention of the teacher facilitator (a) to regulate it. The same happens in the pedagogical moments of practice and implementation.

Regarding to the scientific basis, 40% of teachers opt for the conferences, which are closer to traditional classes. Although classes are participatory because of the constant interventions of students giving their contributions or making questions, these classes deviate from the pedagogical model New School, which must usually be sent to students to work in group, read the scientific foundation, make a summary or a conceptual map of what has been read, then they go to a clarifying plenary between all groups and the facilitator (s).

The 40% of the teachers, who have more experience within the program, teach the class properly and as recommended by the New School Model, not so the newer teachers.

In general, teachers made the active methodologies of the New School Model, but not totally, they made adjustments to define in modular guides, however, there is still interference from the traditional model in which teachers believe they are absolute owners of information and this is evident in the use of conferences and technical pedagogical teaching didactics, also it should be pointed out that different techniques are used, these are active and participative as plenaries, round tables, dramatizations, role-plays, debates, brainstorming, teamwork, exhibitions, preparation of diagrams, conceptual, graphical maps, drawings, compositions, community research, family works, abstract, country side practices, technical tours, others.

### 3. Classroom organization

Students in the classroom are organized in pair, trios, and team, at the same time the learning is demonstrated in the plenary, explanations, debates, and others. It is very common the arrangement in semicircular way, in where the students and teachers are able face each face other, giving an equal and democratic participation among them, it is showed in a 75%, however a 25% of teachers keep the first hour as usual: the lines, taking advantages to do a recompilation of the last meeting classes., doing workshop explanation of the traditional way. This is considered an obvious progress, since bit by bit, the teacher changes the paradigm.

After that, as the modular guide suggests a work in group, so it allows to modify the classroom organization. An 80% of teachers allow students to work in group in the classroom's hall, in the cafeteria area or under a tree that gives shadow and coolness to do the assignment.

A 28% of students do not matter about the classroom organization, but a 72% considerate that the desk organization in the classroom allows a greater participation, in addition it allows students to have a closer visual contact between among themselves, but also with the facilitators. The classroom desk arrangement is very important depending on the activity to be done. The most common patterns seen in the population under study is the willingness of the students in small groups of five students who make small circles that help to exchange experience or to carry out the activities. Arrange the class in circle and place the desks around the collects information about the points of view of students on a particular matter, improves the sociability and integration of the students in a class or contributes to the respect to colleagues, respecting to each other turn of opinion, listening to and acting appropriately.

As a problem of arranging the classroom this way is mentioned: that when there is not enough familiarity among students in tasks of this nature, there is not broad participation, but when they are groups that are familiar, this organization promotes participation and students should be educated to respect their classmates speaking time, to ask the moderator for the right to speak. The work of the moderator should be, giving the word, moderating participation of all, keeping the time that is available for the activity, calling for specific interventions, but above all, and delegating students as moderators.

### 4. Implementation of the collaborative Work

The collaborative work is done in small groups. It is the formation of groups in a classroom; they suggest five students with similar knowledge about the topic that is being developed. It has to be ensured the no emergence of a leader as a normal group; on the other hand, the leadership is shared with all the members of the group; as well as the work responsibility and the learning. It is been developed among the members of the group, the concept of being mutually responsible of the learning of the others. The roles given in each teamwork or group should have the characteristic rotation, equally the coordination, research, equipment manager, the timer keeper and the rapporteur.

It is worth noting, that the 100% of students and teachers interviewed say that at the moment of group formation, they respect the organizational form that students have, but they do not tackle the roles they have to undertake, neither the roles that should be rotated. In the group students work in a democratic way including the participation of each member alternating the role of the

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rapporteur, the writing of papers to turn them to the facilitator, the drawing of charts, as well as the role of displaying of the works in front of the plenary.

In the observation done, there is evidence that the members of each working groups lead a collaborative work, because the responsibility of each member is that entire group achieves the learning; there are explanations inside the group, to the doubts of members and when it is necessary the facilitator or teacher is called to visit the group to make explanations and address questions. There is harmony in the discussions in the group, participation of each of the member and above all, availability to comply with guidance issued. They perform summary and note-taking for the explanation in plenary or to solve doubts generated internally in the group.

### **5. Evaluation of Teaching-learning process**

In this regard it should be mentioned, that UNAN-Managua has defined that the forms of evaluation of students to be 60% cumulative, result of quizzes and papers, plus 40% coming out of a written test. As stated by the University, the accumulated score can be divided into work groups such as exhibitions, documentary research, and work in groups, reports, participation in plenary, delivery of exercises, and other group activities. The other ways of the accumulated are works such as quizzes, summaries, documentary research, individual work at home, and participation in class.

The written tests should contain questions of development allowing the students to explain situations given but attached to their reality, to their surroundings, to specific situations to their community and territory. These tests should not include questions which answers are rote memorization, but stimulate the intellectual development of the students. They must contain the description of procedural actions how to perform activities on the topic. Some subjects instead of having a written exam can perform a coursework, which is a practical activity that must have a scientific rigor and applicability in their environment. The subjects that end up with coursework already are defined in the curriculum. In the case of the evaluated group, in the eighth semester of engineering in sustainable rural development, which ends with coursework, is: applied research

When students are asked about the way in which they are evaluated, the 100% consider that they are evaluated the way that University has set. In the accumulative, facilitators perform evaluating forms such as: works made in group, participation in plenary, class participation, delivery of work done at home or in periods inter meeting, making summaries, practice reports, participation in practical activities, short tests, others. They consider that these evaluative forms are good and are satisfied in the way in which they are done. But in the past, there have been teachers who are very demanding in their evaluation, which is fine, but they demand from the students who should repeat the concepts textually and do not accept his interpretations on theory addressed in the scientific substantiation.

In the application of the written tests they are also satisfied, only explaining that there are some teachers in previous semesters who get graded very low and who demand answers very attached to modular guides. On the other hand, teachers say that they used as cumulative ratings different evaluative forms to students, which encourage the evaluation of procedural aspects, to strengthen the skills of the students. On exams it is also evaluated on aspects that favor the development of students. They believe that the intellectual and educational development of students is very good, they have an excellent written and oral expression, with high disposition to the different



organizations of the class, and this evidences at the moment of speaking a great mastery of the issues related to their country side of training; they are very responsible in the performance of assigned tasks.

## CONCLUSIONS

In the program University in the Country Side, in engineering in sustainable rural development it is done an application of the New School with some variants adapted to the type of education, the level of training, the conditions of the territory, creating an own implementation of the model. A formation is done using the modular guides that are supplied digitally to students; these are the main teaching mean used for the development of classes. The teacher is a facilitator of the process of teaching and learning, in which training is focused on the student, although there still are some features of traditional teacher-centered education.

The classrooms are organized according to the development of active methodologies, where desks are placed in a circle around the classroom. Obviously the completion of collaborative work in the working groups of the students, which supports and brings solidarity to achieve learning. The evaluation of the teaching-learning process is according to the UNAN-Managua, in which teachers make use of different forms of assessment, prioritizing the procedural evaluation and the development of generic and specific competences according to the theme developed.

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