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## A Model for Evaluation of Rural Schools in Developing Countries

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### Abstract

Rural schools in developing countries present a unique opportunity to understand the factors required to create a successful learning environment for students with a specific set of challenges. This paper proposes a developmental model for evaluating rural schools, constructed with data derived from evaluation and research projects carried out in Yucatan, Mexico. In short, the model assumes that rural schools should provide a comprehensive set of services and support for a socially vulnerable population. Thus, this is a developmental model of evaluation that considers the school as a holistic unit, including the quality and length of educational services, the social supports, the school infrastructure, and the availability of comprehensive services before evaluating learning and curriculum. Sustainability, a key element in the model, is examined through school infrastructure, constancy and overall provision of services, and the degree of students' readiness to learn and opportunities offered. The model can place a school along a specific point along a continuum of a developmental process, providing clear directions and specific goals for school leaders to use to grow and advance the rural school toward a fully comprehensive center of learning and social change.

### Keywords

Rural schools, evaluation model, developing countries

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## Introduction

In 2015, a research team with funds from the Mexican federal government carried out a study of four rural schools in the Mayan zone of the Yucatan to evaluate the impact of the emerging program, “Escuelas Tiempo Completo”, or “full time schools project.” This federal school improvement program was designed to provide support to Mexican children in socially vulnerable conditions by extending educational activities from three to six hours a day, and to provide additional support in areas of health, nutrition, special education, Spanish language, math, technology, Mayan language and culture, and art (Sanchez Escobedo, 2016). Results and lessons learned from this study provide the basis for the construction of a new conceptual framework to understand how rural schools develop from providing the most basic services to students to a comprehensive, full-service community center with full supports for the special needs of rural school children in developing countries.

Historically, the evaluation of school effectiveness has oscillated between models that underline instructional issues and those that assess social and contextual issues involved in the student readiness to learn. From the first perspective, Carroll (1963) presented a model where the degree of student mastery is a function of the ratio of the amount of time spent on learning tasks to other non-instructional activities. In the Carroll model, the quality of instruction can then be improved by focusing on immediate factors such as aptitude, opportunity, perseverance, quality of instruction and the ability to understand instruction. In this way, the Carroll model provides a way to understand and evaluate schools as a function of the time spent teaching and the quality of instruction.

The second perspective is best illustrated by the seminal work on equality of opportunity undertaken by Coleman (1966) and Jencks (1972). These two studies from different disciplinary backgrounds arrived at similar conclusions, arguing that learning was largely dependent upon the physical and psychological readiness of the student. This readiness was determined by the degree of nutrition, health, security, and other essential supports within the family and community.

However, there are few models of evaluation that combine both views. In the case of rural schools specifically, there have been relatively few attempts to develop models of evaluation for rural schools that are both theoretically sound and that have pragmatic value. Furthermore, some models of education are based upon subjective and pedagogically-based constructs, making them difficult to assess. For example, the 2017 Mexican educational model presented by Aurelio Nuño Mayer, Secretary of Public Education, argues that the final outcomes of education are liberty, creativity, reasoning, and not memory. These outcomes are not only unobservable, but also do not take into account school context.

The model presented here derives from results and data from an ethnographic research project in rural schools in conditions of social vulnerability in Yucatan, Mexico. In short, the model posits empirical dimensions and measurable indicators to place a given rural school in a specific developmental stage along a continuum, prescribing actions and strategies for growth and advancement.

To better understand the rural school context, we first provide a review of the literature on the evaluation of rural schools.



## Literature Review on the Evaluation of Rural Schools

Despite many of the similarities with Mexican rural schools, American models and strategies of evaluation of rural schools in the United States cannot be used to assess rural schools in developing countries. For example, as in Mexico, children in rural schools in the United States face poverty and food insecurity at a greater rate than the national average (Demi, Coleman-Jensen, & Snyder, 2010; Olsen, 2017). However, despite the poverty of students, Nelson (2010) argues that small, rural American schools have several advantages such; sufficient resources, well-paid teachers, meals, and other health supports to children. Furthermore, smaller class sizes create a much more personalized environment for building relationships among students and staff. This also means that every student may have a greater opportunity to participate in a variety of learning and extracurricular activities. In fact, it has been argued that many rural schools in the United States actually provide a better educational outcome for students than urban schools (Olsen, 2017).

On the other hand, poverty in rural schools in Mexico has had a tremendous influence on the students' readiness to learn, and public educational policies do not necessarily respond to many needs of rural schools. Although only a quarter of the Mexican population lives in rural areas, two-thirds of the population live in extreme poverty reside in this area (Tyler, 2006). Furthermore, poverty in rural areas is worse than in urban areas because there are fewer services and opportunities (Pateman, 2011).

Not surprisingly, educational outcomes in the rural Mexican schools are far from satisfactory. The Mexican Agency for Educational Evaluation reported that because of poverty conditions, rural students do not learn to read and write on the average until they are 8 years old, a significant delay in comparison to their urban school's peers, which is closer to 6 years old (Instituto Nacional de la Evaluación de la Educación, 2017). What is more, the indigenous population living in poverty comprises the segment of the population with the highest rates of illiteracy (Schmelkes, 2013). This group composes two-thirds of the enrollment in Mexican rural schools and has significantly fewer resources and infrastructure than urban schools. Moreover, nearly half of the teachers in Mexican rural schools do not hold a college degree.

Despite the importance given in official discourse to the role of schools in improving social conditions, evaluating the effectiveness of rural schools remains a secondary discussion in educational policy and evaluation studies. What is more, the few calls for school evaluation in Mexico focus on using student test scores to determine school quality. Student learning outcomes are not a fair indicator of the effects of schooling in rural settings in Mexico due to the negative influences of malnourishment, hunger, diseases or family violence. In general, the rural school has some specific educational characteristics which require a psycho-educational approach as well some teaching strategies particularly adapted to its context. Hence, specific evaluation standards and strategies are required.

From this perspective, traditional models of evaluation in the United States used to assess rural schools cannot be used in Mexican rural schools because of the diverse socio-economic conditions, available resources, and educational policies. The major difference is perhaps that conditions in the United States and developed countries allow for the assessment of learning and instruction as indicators of quality of the school and the effectiveness of the educational process. While in developing countries, rural schools need to account first for the remedial or effects of educational services and other social supports in the general development of a child (Scheerens & Creemers, 1989).



A second important difference between United States and Mexico is the role and value of the school in the community. Although in both countries rural schools are perceived as centers for the community (Barley & Beesley, 2007; Olsen, 2017), the rural school in Mexico is in fact the most important service provider to the population in disadvantage. Vaccines, medication meals, meals, orientation and even financial support are provided directly or indirectly through the schools and education, in general, is a strategy for social development. In this context, home schooling is not only illegal but also it is considered to be a disadvantage and a sign of social isolation.

This work proposes a developmental model of evaluation for rural schools in developing countries that aims to go beyond traditional assessment models used in the United States, such as the growth model that attempted to estimate the percentage of students that met criteria for proficiency, or the value added model of achievement that aimed to make positive measurements of students' progress.

Following basic tenets of physical and psychological development, this model does not consider test scores or teacher evaluation reports unless the school had provided services to children cancelled the negative effects of poverty. It is argued that in rural schools, judging only students' scores is unfair, because it does not consider the conditions of disadvantage, the bilingual character of the school, problems with access and materials, or simply the degree of nourishment and health of the students. In addition, the model responds to the criticism of many other attempts that fail to devise a system of incentives that will align agents (services, teachers, principals and parents) with the organizational goals (Abernathy, 2010).

In this view, schools are the center of evaluation, not the students, principals or teachers. The model assumes that every rural school can be placed in a point of development depending the services and reach that they have achieved. Any school then can be placed along a continuum from a basic, emerging position to a holistic one with complete services that help the student ready to learn.

## **Method**

An ethnographic approach in four typical rural schools in this region of Mexico was employed to collect information from the teachers, students, family members, and local authorities. The results were provided to stakeholders in the forms of written reports, audio, video, and other digital media (see for example, <http://j.tinyurl.com/MayaProject>).

As a result of this research, parameters of evaluation of these rural schools were established by combining the opinion of key actors (teachers, headmasters, administrators) with measurable indicators of efficiency, such as percentage of scheduled days of class actually provided, percentage of students attending school daily, availability of services (vaccines, etc.) quality and amount of teaching materials, and the number of days that meals were provided.

Indeed, it was clear from the study that objective measurable indicators were insufficient to judge the degree of efficiency in these schools in context. Lessons learned established five clear directions for a new kind of evaluation process; (1) schools need to be viewed as a unit in a holistic fashion, (2) any school can be placed at any given point of developmental scale, (3) beyond educational or instructional perspectives children's challenges need to be hierarchized, (4) evaluation results should provide specific directions for improvement, and (5) evaluation must be a systematic and consistent process.