

Some Thoughts on ECCD Indicators

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As a contribution to the discussion of indicators I will present in the following pages some thoughts on: 1) indicators of ECCD (or ECEC) programs, with special reference to the EFA monitoring, 2) information about the search for indicators in Mexico in which I have been involved over the last year or so, and 3) results of an initial exploration of indicators related to family environments and parenting.

Section I. ECCD and EFA

In this first section I will critique the current indicators and point to the need to augment them by indicators of the status of children and by additional indicators of program equity and quality.

A. There is a need to measure the status of children (or the effects of programs on children) as well as the status of programs

Although the EFA Technical Guidelines tell us that gross enrolment “indicates a country’s capacity to prepare young children for primary education,” the fact is that enrolment measures do not tell us anything about the actual developmental status of children or their preparation for primary education. No attempt is being made within EFA to measure that progress or status. Accordingly, labeling enrolment percentages as an indicator of ECCD begs the issue and may sometimes be misleading because it is possible to increase enrolments without necessarily affecting developmental levels or school readiness, allowing those responsible for programming to say they have done their job simply by expanding enrolments. The omission of any measure of effects or of developmental status of the population within EFA contrasts with presence of an indicator of achievement at the primary school level.

Suggestions:

Having said the above, it may be necessary to say (admit) that it is inadvisable or impossible to obtain comparative information on child development that will have meaning across countries. If that is the case, I think there is, nevertheless, a responsibility within the EFA framework, to assist countries to create their own instruments for measuring early childhood development (or learning or competencies or even preparation for schooling). The international indicator, then, might be whether a country has created and is using a valid and reliable measure to monitor aspects of the developmental status of children. Or, international reporting might focus on whether or not progress has been made over time in a country, as measured by its own instruments, in a) improving the general level of development (early learning, competencies, ...) and/or in b) bring up the bottom part of the

distribution (decreasing the percentage of children with severe or moderate developmental deficits or learning difficulties or...)

B. There is a need to clarify and refine the existing indicators and their interpretation.

Although they may be useful in a very general way, the indicators currently being used to monitor ECCD in EFA need to be clarified and refined. I will confine my comments to difficulties that I detect in the definition and measurement of the gross enrolment indicator which is the most widely used of these indicators. (After writing, I see that much of this repeats what is in No. 25 of the Coordinators' Notebook, pp. 16 and 17)

1. Definitions of what constitutes the content of an early education (or early childhood) program.

- In theory, there should be no difference between early education programs and child care programs; both should be aimed at improving the development of young children. However, some education programs are not particularly concerned about health or nutrition or physical development and some childcare programs are not concerned about early stimulation or early learning. If one assumes that it is reasonable and right for childcare programs to pay attention to development and early learning and that this occurs in many such centers, then those should be included in a tabulation of enrollment in ECCD (or ECEC) programs.
- Definitions of what constitutes ECCD differ across countries making it difficult to make cross-country comparisons.

2. Age limitation and lack of age specificity.

- Although the Jomtien Conference specified that "learning begins at birth" many countries (and the currently used international standard, if remember correctly) do not collect information for the participation of children who are under three years of age. The EFA indicator suggests 3 to 5. In line with the EFA declarations, information should be collected for earlier ages as well.
- The fact that the enrolment indicator is reported for age spans (e.g., 3 to 5) rather than for individual ages hides information. (For instance, the enrolment level for children age 5 in Mexico is placed at about 82% as contrasted with 51% for age 4 and 17% for age 3; when these are grouped in one indicator, for ages 3 to 5, that important information is lost). In addition, different countries report different age spans making comparison impossible. Therefore, governments should be helped to refine their reporting systems so that they can report enrolment for each age, not only clarifying enrolments but also facilitating international comparison.

3. Measurement difficulties:

- Gross vs. net enrolment. Because information is reported by program levels, no account is taken of children who are over- or under-age in each level. In most cases, this will not affect calculation of the percentage very much. Nevertheless, in specific cases such as Brazil where a large number of children age 7 are classified as being in early childhood programs because they are in a special program to prepare them for primary school, the distortion can be more important. Similarly, in cases where a significant percentage of children age 5 enter primary school “early” they are not taken into account in calculating the enrolment percentage even though most have passed through an early childhood program. (This helps to account for the difference between the 82% estimate of enrolment according to the gross enrolment indicator and a 90% estimate of new entrants into first grade who have had preschool experience.)
- Measurement at the beginning of the year. In some settings, children who are enrolled never enter an early childhood program or the parents decide to remove the child from the program during the first few weeks. Or, children may become sick during the year and drop out. In others, enrolment increases over the course of the year. Perhaps a more adequate measure of enrolment would be the enrolment at mid-year or should take into account the number of days of the year that a child has attended a program.
- Including private or unregistered centers. Some governments do not include attention to children in private centers in their statistics, even if those centers are registered and operate within the official educational framework. Moreover, it is not uncommon to find a significant number of centers attending to early children totally outside the official system. These centers may be unknown to authorities or known and tolerated, even though they are in some sense “illegal” because they are covering a social demand that is beyond the capacity of the government. To have a more complete picture of enrolments, these should be included as well.” Differences in the degree to which attention occurs outside the official system, complicate and bias international comparisons.
- Differences in the number of hours attended. Is it correct to include in the same category a center that operates three days a week for two or three hours per day with centers that function for eight hours a day at least five days a week?

Some of these measurement difficulties may be difficult to overcome in a data collection system run by the Ministry of Education (for instance, identifying and incorporating unregistered centers or distinguishing the real number of hours a center is in operation). But the information may be obtained through household surveys.

4. Interpretation difficulties. What is the standard? Is it implicit or explicit?

In order to interpret the enrolment indicator (to see whether we are making social progress or not) implicit standards are applied. Perhaps the most common implicit assumption made when interpreting enrolment percentages is that the goal to be achieved is

100 percent enrolment and that 100 percent is a desirable goal. In this case, countries are judged, at a particular point in time, in relation to how far away they are from achieving 100 per cent enrolment and comparisons are made internationally among countries with this common standard in mind. But is this the standard desired? We might be willing to assume that 100 percent enrolment in programs of early childhood education is a good goal for children aged 5 (even though very few countries in the world make education obligatory at age 5) but we might not be willing to accept that same standard for children at age 3 or 2. Nevertheless, countries are urged to report the percentage of children age 3 (and we have argued that they should also report enrolments for earlier ages if they do not now do so) who are attended to in childcare and/or early education centers. Should these enrolment data also be interpreted against the implicit standard of 100 percent? If so, how would we take into account, for instance, a policy in which child subsidies are provided to parents to attend to their children at early ages. Or how should we factor in the fact in the earliest years, being at home may be a much better alternative for attention to young children than attention in centers, this quite apart from the fact that, in many countries, women are expected to stay home to care for their young children. In these cases, the assumption of 100 percent attention outside the home may not be an acceptable or even desirable standard. Do we really want all 2-year-olds in institutionalized programs? Is there public demand for such programs? Let us say that the real demand for childcare and development programs at age two is present for only 20 percent of the children. Accordingly, a case might be made for taking the 20 percent figure as the goal or standard, at least in the short run, rather than 100 percent.

Another implicit standard is related to the improvement made in enrolment percentages over time in a country rather than at a point in time. In one version of this interpretation, any increase in the enrolment percentage is good because relatively more children are being attended. But suppose the enrolment percentage increases one per cent over the period of a year in one country and 10 per cent in another. Are we satisfied that any increase is good and leave it at that? Is a 10 percent increase clearly or always better than a one percent increase? How do we take into account different base lines from which the increase occurs?

Or are there other implicit or explicit standards against which to make the interpretation? Let us suppose that a national goal of a 5 percent increase has been set by both countries. In that case, the desired social end, made explicit in a goal, leads to an interpretation that the lower increase, although an increase, is unsatisfactory whereas the higher increase is satisfactory showing even greater progress than envisioned.

Specific suggestions:

- Create and report gross enrolment percentages for each age.
- Open up the definition of early childhood education to include younger ages and to include centers that might not meet the basic conditions assumed to be necessary for an adequate early education.
- Check in a variety of countries to see how great the variation is between enrollment measures at the beginning, middle and end of year (and avoid labeling as “drop out” reduced attendance as the year advances, should that occur).

- Check to see how great the difference is between gross and net enrolment percentages in a variety of countries.
- Consider modifying enrolment rates by applying an adjustment for attendance levels (or create a separate indicator for attendance – see below).
- Be extremely cautious when making cross-national comparisons.

C. Measuring program enrolment (coverage, access, use) is not enough.

To have a more adequate view of ECCD programs we should be concerned also with indicators of: equity, quality, efficiency and financing. I will concentrate here on equity and quality.

Equity

I take this set of indicators first because, in theory, it is a relatively easy set to define. To do so, one must determine 1) the groups within the population to be compared, i.e., groups that it is suspected are treated unequally and 2) the standard by which the inequity will be judged. Figure 1 shows seven ways of distinguishing groups to be compared: gender, urban-rural, administrative divisions, income, “marginality”, culture and (physical or learning) capacity. Each of these groups might be compared with respect to: their participation in early education programs, the quality of the programs in which they participate, the resources assigned to these programs and/or the results expected (for instance, on developmental status).

Figure 1

	COVERAGE	PROGRAM QUALITY	RESOURCES ASSIGNED	RESULTS EXPECTED
GENDER				
URBAN-RURAL				
ADMINISTRATION				
INCOME				
MARGINALITY				
CULTURE				
CAPACITY				

If we take the case of inequity between boys and girls with respect to coverage, it is relatively easy to disaggregate coverage by gender and present the results. Indeed, the EFA has made an effort to compare percentage enrolments for boys and girls, using a standard of 1 as representing equity.

The EFA has also encouraged countries to disaggregate their enrolment statistics according to urban-rural locations. Because this division is also a two-fold division, it is possible also to see how close the comparison is to 1, representing equity. Typically, urban coverage is higher than rural coverage.

When enrolment data are disaggregated by administrative divisions (regions or states) it is possible to see whether some divisions are better off than others. Because there are usually more than 2 administrative divisions, the comparison is either made across the divisions with respect to an assumed 100% coverage. Or, as an alternative, the entity with the highest enrolment is compared with the entity with the lowest enrolment to see how greatly this comparison diverges from 1. (For instance, enrolment may be 4 times as high in the best province as in the worst suggesting considerable inequality in program coverage.)

If income or culture is used to define groups this is usually done by assigning to children the income status or cultural attachment of their families. Such information is not easily available through regular educational statistical collections but census data (assuming that the census has a question on participation in early education or care) or household surveys open the possibility of creating such an indicator. “Marginality” may be calculated at a family or municipality level in terms of an agreed upon index. If the calculation is at a municipal level, it is possible to create an indicator by associating enrolment by municipality (data collected by education) with the determination of marginality at a municipal level from census or household data.

Creating an equity indicator by disaggregating enrolment data is feasible. Doing the same for the other standards of equity – quality of services, resources assigned and results - is more difficult, mainly because such information is not now collected and cannot be disaggregated.

Quality

Although quality means different things to different people, a number of valiant attempts are being made to define and measure the quality of ECCD programs. For the most part these attempts include measures of the availability and quality of resources, of the quality of the educational and management processes and of the kind and extent of participation by families and communities. Whereas administrators tend to emphasize resources and record keeping, educators tend to place emphasis on the educational process and the nature of the interaction between educators and children. This is not the place for an extended discussion of the concept of quality. What can be done, however, is to provide, later on, an example from Mexico to illustrate a process that might be followed in creating indicators of program quality. This example, as several others involves creation of an instrument that can be applied in a sample of centers to describe several aspects of quality.

Here I will concentrate on one indicator that is sometimes used as a proxy for quality: the number of children per teacher/caregiver. To quote from CN25:

“Most countries establish norms for the number of children it is thought can be reasonably attended to by teachers and caregivers. These norms differ according to age group. It is assumed that fewer children per teacher/caregiver is usually preferred because

it allows the adult to pay more individual attention each child, which, in turn, is assumed to promote better learning and development. A very large number of children per teacher tend to restrict one-on-one activities by requiring much more attention to group control and management instead of promoting learning through exploration and attention to individual needs.”

The capacity to teach, orient, guide preschool children depends on ability and motivation, but is also related strongly to the training that teachers have received. Ironically, where teachers have the least training the child/teacher ratio tends to be the largest, not because countries think that a large ratio is good but because economic limitations rather than pedagogical considerations dictate the situation. High norms and ratios are a matter of political and administrative convenience.

Notwithstanding differences in definitions of the kind of child a nation would like to emerge from an early education system, in curricula chosen, in modes of training, etc. it is generally more difficult to reach the ends desired and to apply the curriculum chosen with a large number of students per teacher.

The 12 OECD country studies reported in Starting Strong describe norms in the participating countries. These norms vary widely, but for the most part, even for children age 5, are 15:1 or less. A review of the norms set by different states in the United States shows one state with a 20:1 ratio but, again, with the vast majority of states with norms that are 15:1 or less. The National Association of Education for Young Children (NAEYC) suggests norms of 8, 9, and 10 to 1 for children 3, 4 and 5 years of age.

Recognizing the potential value of a child/educator ratio for monitoring the progress of early education systems, some nations have calculated that indicator. The calculation, however, is made by dividing the total number of children in the system by the total number of teachers in the system. Even if this indicator is calculated by administrative responsibility, it will hide important variations from center to center. Accordingly, I would recommend working toward using information from each reporting center to define a child/teacher ratio at the center level, by age (or development) group. This would allow the creation of an indicator defined as “the percentage of centers that have a child/teacher ratio that is above the national norm”.

Section II. An Example from Mexico

A draft copy of the summary report of a Forum held in November of 2001 is attached. The report provides the basic elements of an ongoing process that has been underway in Mexico for more than a year. It also provides a listing of the various indicators that were suggested to enrich the monitoring of the well-being of young children in Mexico and the status of programs intended to improve that well-being.

There are several points about this exercise that I would like to stress:

1. This is an inter-sectoral exercise. The discussion of indicators has helped to bring together people who seldom talk to each other.
2. The process of trying to arrive at indicators has been as important as the preliminary outcomes. For instance, participation in this process has helped representatives from the health sector to look at ways in which the development dimension can be incorporated into health programs. The discussions have helped a reexamination of norms, both in education and in health. In the process we discovered that four different parts of the Ministry of Education were working on defining competencies for children 0 to 6. These four were brought together with a psychologist from the National University who was also working in this area in order to seek agreement across all groups.
3. The exercise involves financial cooperation between Unicef, Unesco and the government, with minimal financial involvement from the international organizations and important contributions of staff time by the government.
4. The process is far from complete. Much more work needs to be done on defining some of the indicators, on creating instruments needed to obtain some of the information desired and to work the indicators into the system.

A research project

This exercise has served as the basis for creating a research project in one of the areas discussed, defining indicators of the quality of early childhood centers. Taking the categories established by the working group on program quality as its base, this project has made adjustments in the categories and has created an instrument that will be tried out in 40 centers of different types during the month of October, 2002. The draft of the quality instrument has also benefited from review of: the Early Childhood Environmental Rating Scale (ECERS), including adaptations made in India and Ecuador; the High/Scope observational protocol; a self-evaluation instrument developed in Chile; and certification criteria for preschool centers developed in Australia and New Zealand.

The four main categories of the scale are: resources, the educational process, management, and communication with (participation) by family and community.

Section III. Family Competence and Parental Education.

It is likely that the family will forever be the principal environment in which children develop during their early years, even if participation in extra familiar programs continues to increase markedly. This is particularly true for the earliest of the preschool years. Moreover, there is a notable tendency to create ECCD programs intended to improve the ability of families to support and improve the development of their children. These programs are sometimes created because they are thought to be an inexpensive way of improving early childhood development. The programs take many forms, from media-based campaigns to home visiting programs run by health or educational sectors to parental education programs, to the insertion of parenting content in literacy programs.

It has been my sense, however, that despite considerable work done on childrearing patterns and practices, both the conceptualization and the evaluation of these programs continues to weak. We seem to know very little about the results of applying different strategies. And, I was not aware of many established indicators to help us monitor family competence in caring for their children. With these doubts in mind, I have made a preliminary run at identifying family indicators that are in use, primarily by searching the internet. As a stimulus to conversations, I present below a telegraphic summary of Family Environment Indicators encountered. The main sources for this information have been:

B. Brown. "Indicators of Children's Well-Being: A Review of Current Indicators Based on Data from the Federal Statistical System." In R. Hauser, B. Brown and W. Prosser (eds.). *Indicators of Children's Well-Being*. New York: Russel Sage Foundation, 1997.

Asher Ben-Arieh, et. Al. *Measuring and Monitoring Children's Well-Being*. Dordrecht: Kluwer Academic Publishers, 2001.

The Head Start Bureau. "Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start." Washington, D.C.: Administration on Children, Youth and Families, Department of Health and Human Services, the Head Start Bureau, June 2002.

Internet sites:

www.childtrendsdatbank.org
www.childstats.gov
www.childinfo.org
www.kidscount.com
info@childwellbeing.org

I have classified the indicators presented into two major categories, the first dealing with characteristics of the family and family members as well as the conditions in which families live and the resources at their disposal. These I have distinguished from indicators of parenting practices. A surprising number of indicators emerged from the varied sources.

Child Well-Being: Family Environment Indicators

Characteristics, Conditions and Resources

A. Family Structure

- % children living with two parents
- % children in single parent families

B. Parent or caregiver characteristics

- % mothers who are high school dropouts
- % families where parents have difficulty speaking the dominant language
- % alcohol use as indicated by report of heavy drinking in the past year

- % drug and tobacco use
- % parents with symptoms of depression as indicated by parents who said they “feel sad, hopeless, worthless, restless or that everything was an effort all of the time or most of the time during the past 30 days.”
- % of mothers who smoked or took drugs while pregnant

C. Employment

- % of children with both parents or one parent employed full time, all year
- % of mothers in the labor force
- % with one or more parent working 50+ hours per week
- % of families where no parent is fully employed

D. Housing

- % that report housing problems
- % living in crowded conditions (less than 1 room per person)
- % without plumbing or kitchen facilities
- % where housing costs were more than 50% of family income

E. General social and economic conditions

- % of families below the poverty line
- % of families in long-term poverty (over several years)
- % families that sometimes do not have enough to eat
- % families with debts
- % families without certain possessions (refrigerator, telephone, ...)
- % families that can count on the help of other family members or friends

F. Access to services

- % children covered by family health insurance
- % families in welfare program
- % families receiving food stamps

G. High risk family

- % families with 3 or 4 of the following:
 - income below the poverty line;
 - single parent family;
 - no parent with full time work all year;
 - household head is high school dropout

Practices

A. % of income spent on children

B. Health care:

- % with no usual source of health care
- number of physician visits
- % of mothers who breast fed
- % of mothers who use ORS or fluids for dehydration

C. Interaction with children

- % parents who report they hug their children and tell them they love them every day
- Amount of time parent spends with child on a typical day

- Average hours per week of time available to children
 - % of children, 3 to 5, read to daily (or 3 times per week) by parents or other household member
 - % of children, 3 to 5, told stories 3 times per week
 - % of parents who engaged children in songs, music or art in the last month
 - % of parents who regularly engage 3 to 5s in household chores, family discussions, errands.
 - % of parents who permit “excessive” tv viewing
 - % of parents who set a regular bed time for their children
 - % of parents who were supportive during parent-child structured play
- D. Abuse and punishment
- prevalence of child abuse (indicated and verified)
 - % of parents responding “a good hard spanking is sometimes necessary”
- E. Community involvement
- % of children, 3 to 5, taken to the library 1 or more times per month
 - % of parents who regularly take children, 3 to 5, to concerts, plays, museums, zoos or community events
 - % parents who participate in school events

Comments:

Some of the above I would not consider indicators because it is difficult to interpret them. For instance, it is difficult to know whether an increase in reported abuse indicates more abuse or greater awareness and reporting.

Some of the above would not be appropriate for use in Majority World Settings

Some of the indicators require information that comes from special studies.

There is no indicator that tries to capture parental knowledge of basic behaviors that would enhance child development or improve their interaction with their child, with the exception of two health practices. Where is the parallel for psycho-social development.

To these one might add indicators that have been created as a result of the application of the HOME: harshness, warmth, support of language and learning, internal physical environment, emotional responsiveness.

Family Competence: A Brazilian Example
(from a presentation by Craig Loftin at a meeting in Panama, September 5, 2002)

The office of UNICEF in Brazil is in the process of trying to create indicators of Family Competencies. “Family competencies in the care of children from 0 to 6 years of age are those behaviors, knowledge, practices and abilities of the family that facilitate and promote the survival, development, protection and participation of the children in the

family.” The competencies are being identified and developed by reviewing literature and tapping the accumulated experience of staff and specialists. They have also taken items from Zelee Hill and Betty Kirk. “Family and Community Practices Which Promote Child Survival, Growth and Development – A Review of the Evidence”. London School of Hygiene and Tropical Medicine.

The following competencies taken from the list of 24 are labeled as related to the right to development:

- Breastfeeds the child exclusively until 6 months of age and continues breastfeeding during the first two years of life. Takes advantage of breastfeeding time to strengthen the mother (father)-child relationship.
- Initiates complementary feeding at 6 months with nutrient rich foods that are adequately/healthily prepared, without abandoning breastfeeding until the third birthday. Takes advantage of eating/feeding times to strengthen family relations, listening and encouraging the participation of the young child.
- The father, or another significant adult, participates together with the pregnant woman in pre-natal care visits, the delivery and post-partum well-baby care visits.
- Establishes and maintains a family routine to enhance stability and predictability of the home environment for the child.
- Spends time with the child each day, although briefly, engaged in activities of interest to the child. Of particular importance is reading and story telling.
- Ensures that the child has access to toys and other objects with which to interact and explore his/her world. Of particular importance are books and other printed materials
- Provides opportunities for the child to socialize with other children of the same age, to play and learn pro-social skills.
- Identifies adequate/quality “learning spaces” that stimulate the participation of the family in all aspects of the program, to ensure that the child’s rights to survival, development, protection and participation are implemented while family members work.
- Protects the child from the damaging effects of alcohol and other drugs, abuse and violence (during pregnancy and breastfeeding, intrafamiliar violence, etc.)
- Identifies and knows how to demand and ensure that needed child care services are established in the neighborhood and municipality.
- Prioritizes child needs in the family budget.

Comment: It will be important to identify the results of similar exercises in other countries to try and determine “universal” or close to universal competencies.

My hope is that this selective, sometimes telegraphic view of various aspects of the ECCD indicators topic will help to stimulate discussion and advance the search for indicators that will have international and national meaning.