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Discussion Papers: Cooperative Learning Communities in Africa

David Rosen

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COOPERATIVE LEARNING COMMUNITIES IN AFRICA

David Rosen, April 1972
NOTE: THE FOLLOWING IS AN IMAGINARY TRANSCRIPT OF A WRITTEN AND TAPE-RECORDED JOURNAL OF A FOREIGN VISITOR TO THE HYPOTHETICAL NATIONAL MODULAR LEARNING AND LABOUR CO-OPERATIVES, A SYSTEM OF MODERN AFRICAN CO-OPERATIVE LEARNING COMMUNITIES.
"If Africa will take off in economic growth it will very likely do so from the basis of its own culture. This will not be its past culture, but a new African culture, stimulating its members to society oriented production of services and goods. Education has then to become the formalized generating factor of this new culture."

MONDAY MORNING, DECEMBER 13

It is eight o'clock A.M. The taxis and Peugeot buses are carrying people to work in the markets, small shops, offices and schools. I am standing just inside a movie theatre which seats over three hundred people. No one will come to work here until this evening. Last year, five days a week, while most of the city labored, the Bijou was idle and empty.

Now, students from work-learning co-operatives all over the city are seated inside, waiting for the film; an apprentice from the mechanical repairs co-operative turns down the house lights and "Leather Tanning in Morocco" begins.

After the first showing, an American Peace Corps volunteer, who has had training in leather crafts in Morocco, and who speaks French and English, and a Moroccan gentleman who owns a small leather-working shop near the main market, answer questions from the audience. The volunteer translates for the Moroccan. When there are no more questions the Peace Corpsman, a teacher in the leather crafts co-operative, points out parts of the process students will want to pay special attention to, and raises questions for them to consider while they view the film for the second time.

TUESDAY EVENING, DECEMBER 14

"This is what our educational system has to encourage. It has to foster the social goals of living together, and working together, for the common good.... This means that the educational system...must emphasize co-operative endeavor, not individual
advancement; it must stress concepts of equality and the responsibility to give service which goes with any special ability, whether it be in carpentry, in animal husbandry or in academic pursuits." - Julius Nyerere, "Education for Self-Reliance"

I am at a weekly meeting of one of the cloth co-operatives tonight, at the home of Mr. and Mrs. Thomas Moulu, the parents of Francis Moulu, the co-op president. I have just been given a copy of tonight's agenda:

"AGENDA OF YANNA YARD CLOTH CO-OPERATIVE MEETING

14 December 1971

I. Introduction of guest.

II. Introduction of members of Y.Y.C.C.

III. Discussion of problems concerning practical learning modules.

IV. Discussion of problems concerning afternoon work.

V. Discussion of problems related to evening academic learning modules.

VI. Discussion of other problems or concerns.

VII. Refreshments for all."

I met Francis last Friday when he and students from each of the other two cloth co-operatives were having lessons in tying and dying. From Tuesday through Saturday every week, for four weeks, they have met with Musu at her house. She teaches them the traditional way, making certain they have mastered each kind of tie. They can make blue dye from indigo leaves, a rich orange from camwood, and a subtle rust from kola nuts, and they know the secret of mordanting cloth so the dye won't wash out. They are learning not only the skills of tie-dye, but the significance of each design and when it is to be worn.

I asked Musu why she taught what had taken her long to learn without
gaining something in return. Answering through Francis, she immediately corrected me; she had spent many years learning her craft -- first she had had to pay her teachers with rice, and then apprentice herself for two years without earnings. She smiled, "but of course not for nothing."

Francis explained that she and several other adults who modeled their skills for the students were enrolled in classes to learn how to speak English and to read and write. He added that Musu did not like to have to rely on her brother to talk for her each time she went to bargain with the cloth merchants at the market.

While waiting for members of the co-operative to arrive -- these meetings never seem to start on time -- I talk with Francis and Tommy Kwia about their Friday afternoon English language classes. Tommy explains:

"When I joined the cloth co-operative last year I had finished primary school and two years of secondary school. I knew how to speak English and to read and write. When our co-operative was meeting with other co-operatives earlier this year, and we were brainstorming ways to interest craftsmen to teach us skills, someone suggested they may like to learn to read and write, even some to speak English. I said that I had taught my younger brothers to speak, and that of course I could read and write. Later, our teacher, Mr. Wilson, showed me the teaching modules which I might use. In fact there are many people enrolled in my course...."

The other members of the co-operative had arrived and Francis suggested we begin. The meeting went on and on. Everyone had to have his say and all of the major problems for which policy was made had to have group consensus. I was surprised, actually, that the group was able to achieve consensus so quickly and wondered if they had received training
I would like you to hear a small part of the meeting which I taped to give you an idea how a co-operative does business. When they reached Agenda item IV there were a number of problems. The supplier of indigo leaves had raised his prices, a craft shop which had been buying their batik handbags had closed, and an exhorbitant customs duty was being charged on one of their parcels of English dyes. Then the dyers had a criticism of the seamstress-tailors that they wanted the group to consider.

"You people (the seamstress-tailors) are working too slow. Everyday this week, myself and this boy, Malik, have finished dying the cloths before three o'clock because there is no supply of sewed or tied cloths ready to dye. We have finished all. So we have to wait until next day before getting more cloths from you to dye, and that is a wasting of time."

After much defending and more critizing, Francis suggested that they brainstorm to solve the problem.

"Remember, please, while we brainstorm, everyone's ideas are good. If someone's idea reminds you of another idea, say it. You can ask what someone means if you don't understand, but no criticizing now. We are trying to get as many ideas as we can...."

"...and give one dyer something else to do....Let him teach dying in another co-operative....Train more people to tie cloths....Train one dyer to sew cloths so one seamstress-tailor can just sew....Let the man get himself one beer to drink, set down and... aha! Train the dyer to tie the cloths, so when he has finished dying he can tie."

The brainstorming stopped here because everyone agreed that that was the solution. Tomorrow morning, one of the seamstress-tailors will begin to give the dyers modules in tying.
"The fact that pre-colonial Africa did not have 'schools' -- except for short periods of initiation in some tribes -- did not mean that the children were not educated. They learned by living and doing. In the homes and on the farms they were taught the skills of the society and the behavior expected of its members."

-- Julius K. Nyerere. op. cit.

The market is alive this morning. Women carry head pans of fish, greens, Akara, cassava, rice, bitter tomatoes and oranges. Market tables are ready for business with penny piles, three penny piles and six pence piles of everything from fruit and vegetables to soap and chewing sticks.

A crowd of men is gathering around an early palm wine vendor.

"MECHANICAL REPAIRS CO-OPERATIVE
NATIONAL MODULAR LEARNING AND LABOUR CO-OPERATIVES
ADDRESS: 11 BRIGHT ST.  TELE: 01320
BUSINESS HOURS: 8: A.M. - 5: P.M.
MODEST PRICES  EXPERT REPAIRS
BICYCLES, MOTORCYCLES, SEWING MACHINES,
TYPEWRITERS, SMALL BUSINESS MACHINES, ETC. ETC."

The co-operative occupies two market stalls and is covered with translucent fibreglass which sets it apart from the fruit and vegetable merchants. There are twelve students working inside the co-operative, each group of three working on a different kind of machine.

Mr. Sekou, the mechanics teacher, is off to one side absorbed in repairing a movie projector. I learn that it belongs to the Bijou where the co-operatives show films on Monday mornings. The NMLLC (National Modular Learning and Labour Co-operatives) have a contract with the Bijou which provides operators for their regular performances, clean-up after each show, and immediate repairs on any projector which breaks. In return, the co-operatives have use of the theatre anytime it isn't being used for commercial purposes.

While Mr. Sekou and I converse, it soon becomes apparent that he does not actually teach a class, so I ask him how the modular learning system
works. For every three co-operatives which use a long-term skill model
(some of the co-operatives, the cloth co-ops for example, are able to gain
the skills they need through contracts with a number of short-term skill
models) a skilled artisan or tradesman shares his time equally among them
in return for a share of the profits from each co-op, constituting one third
of a total agreed-upon salary, usually a larger amount than he would be
able to earn by himself at his trade. He is responsible to model his skills
in modular format for each of the three groups, and for competency and
quality control.

In the early months of a co-operative’s existence, he works for the
coops full time in one place and all the profits from their repairs will
go to him. At this time profits are usually barely sufficient to pay half
of his salary, and the rest is supplied through a loan from the NMLLC, but
later as the co-ops get on their feet, they assume full responsibility for
his salary. After several months, the students are skilled enough to use
his services only half a day and pay him half salary, and if he has kept
up his trade he can return to it part time or he can become a co-op member
and receive a share of the profits.* By then, too, they are able to begin
to repay their loan to the NMLLC for his salary, their tools, and their
back dues.

I asked Mr. Sekou to explain modular curriculum for me and he handed
me the written example which I have included in the appendix. He also
showed me a large loose-leaf of such modules, and when, as I glanced through
it, I expressed surprise that there was a book which met his purposes so

* Having been a skill model he is entitled to a slightly larger
percent of the projects and he can also attend any number of
NMLLC learning modules to pick up additional skills for himself
at no charge.
well, he smiled. He explained that just after he had been hired by the NMLLC, one of the Peace Corps volunteers working with the co-ops had come to see him to explain modular curriculum and to discuss with him what he was going to teach the students. He gave the volunteer a list and then forgot completely about it. Three months later this loose-leaf book came to him from Amherst, Massachusetts with modules to deal with his objectives. Of course some had to be modified. "We don't repair many electric sewing machines here," he smiled. "Oh, and the students use them as well.

"Yes, you see," he explained, "we use what we call peer teaching here; actually a way we have used in Africa for years." He stopped to offer me half a kola nut. "Traditionally the older children have taught the younger and a child who has a skill that another of the same age does not, is willing to teach him. Of course, with children who go to school it is different; they sometimes want to keep their knowledge, like secrets, ah, but here is how peer teaching can work...."

"On Tuesday, from 8:00 to 10:00, I teach a module, let us say, on how to pack bicycle wheel bearings. Two students from each co-op watch me, and at the same time, each packs the bearings of a wheel that he has brought. I watch them very carefully to see that the work is good, the wheel must be able to turn freely but without play. Some learn right away, others have to do the module a second time; usually no one has to do the module more than twice.

"When a student has demonstrated that he can pack the wheel bearings properly he must then teach this to other students in his co-operative. It is only necessary, of course, that one or two be able to do each module, but if there is plenty of business at once, or those two are both ill, it is better for more to know. On Wednesday morning, as you see now, each
student who has learned about wheel bearings will teach the others. Then, sometime that week, each person who has packed wheel bearings will show the wheel to me and I will check the work. If it is correct I will mark down that he has passed that module and has that competency. If it is not correct, he can do the module again. If several are not correct from one co-operative, then I must check to see that they have been taught correctly, but this does not often happen, you know, because when a student knows that tomorrow he must teach what he is learning today, he is careful to make sure he understands it quite well!

"Some skills I teach are more difficult to learn. A student has to have some mechanical experiences first. I will not teach those until the second year, and by that time students from this co-operative may have achieved enough modules that they will be skill models for next year's first year mechanical repairs co-ops."

(The director of the co-operatives, in a visit later, provided me with a schematic drawing which explains how horizontal and vertical peer teaching work. It is included in the appendix.)

**WEDNESDAY AFTERNOON, DECEMBER 15**

I spent this afternoon with Tommy Kwia going to craft stores, where he showed samples of new cloth co-op products and took orders for them: collapseable lamp shades, hats and caps, linen tablecloths, water-repellent coats and umbrellas, drapes, wall hangings made from tie-dye and batik, country cloth purses, hats and cushion covers. As we walked slowly in the hot, dry-season sun we talked about Tommy's work and about what he saw is his future.

I asked Tommy to explain how the co-op last night was able to reach
consensus as quickly as it did. He explained that it was a feeling that they all had, the feeling of being able to trust each other, and the belief that each had to rely on the resources, creativity, and goodwill of all the members. The problem of the seamstress-tailors was genuinely of concern to all, he said. Everyone realized that the co-operative as a whole would produce less, that their share of co-op revenues would be less, and if carried to the extreme, the co-operative would not be able to continue to pay its recurrent costs and would no longer exist.

I was now even more intrigued to know how the people came to recognize the dependence of each on the group as a whole. Tommy explained, "When we joined the co-operative movement we each chose the co-op we wanted to be a member of, by our preference for the work we would do there. I chose the cloth co-op because I have done a little of this work. My mother makes cloth this way in our village.

When those interested in doing cloth first met we were told that we would be going to the country for three weeks. We would be living together in the forest, not in a village, and the boys and the girls would go together. You might imagine our reaction, and in fact, two of the boys said by all means they could not! How would we live, I wondered? And for what purpose? I am thankful that the second year boys were there to encourage me, because I do not think I would have gone.

Living in the forest was very important. We had to learn to survive together; using our intelligence, enduring together so many hardships, working together to trap animals, to find roots to eat, to make shelters ... and it was rainy season!

Some of us had never been outside of the city before, and even I had forgotten so many important skills my father had taught me. I can say that it was during this time that our group became close. Afterwards
we knew we could be certain of each other, and we learned very well that

After Tommy and I had stopped at two shops we had a long walk before

the next one so I asked him about his plans for the future. "We have talked

of moving into the interior," he began. "Although co-operatives are in-
tended to stay in the city, if we can provide transportation for our products

and purchasing our raw materials, it will be less expensive for us to live

in the country. Of course I would still have to spend more time in the

city than the country to sell our things."

I asked him if he didn't plan eventually to leave the co-operative

and go to the university and get a government job. "Anyway I wouldn't

mind if I had the chance, but so many boys now have degrees and no jobs.

I have no degree, not even G.C.E., or any certificate but School Leavers's.

I asked him if he hoped sometime to set up by himself in business,

to start a shop or a company. "Of course, if I could make more profit,

I would leave the co-op, but you see, I am not sure whether this would

be possible, and you know a man does not go to the forest to look for

meat when he has plenty at home."

We turned into the cloth section of the main market, and I left

Tommy to ply his trade.
"The mother is in charge of the co-education of her children. In the evening she teaches both boy and girl the laws and customs, especially those governing the moral code and general rules of etiquette in the community. The teaching is carried on in the form of folklore and tribal legends. At the same time the children are given mental exercises through amusing riddles and puzzles which are told only in the evenings after meals, or while food is being cooked." From Facing Mt. Kenya, Jomo Kenyatta.

At present the co-operative movement offers nine academic courses which meet on four evenings during the week.

1. Reasoning and Problem Solving for Creative Intelligence.
5. Reading Technical Literature.
8. Consumer Education.

Each student usually enrolls in at least two courses a year and a co-op team, as a team, must have competency in six areas before it enters the second phase of its operation as a fully working co-operative. The teachers of these courses are education, politics, and sociology majors from the university, who teach a course for one semester as a part of their degree requirement. They have all undergone a one semester university course in innovative methods of teaching, and competency-based education.

On Thursday evening I visited a class in Reasoning and Problem Solving. When I entered the classroom I saw four circles of Kerosene lamps. The co-ops have a contract with the government primary schools to use them in the
evening. Each student provides his own lamp in the schools without electricity. Students were seated on top of the desks, chalk slates in hand, and each group was working on a problem. They were the imaginative sorts of problems I had found in puzzle books as a youngster, the ones whose solutions seem obvious.

The group I sat with worked out a problem which required connecting a number of dots with one continuous straight line, without the chalk leaving the slate, and then one requiring their constructing four equilateral triangles from six match sticks. I observed that as a student got the solution he would not tell it until the others had a good try. After each small group had an opportunity to try its problems, all of which required uncommon solutions, the class as a whole was presented with this problem: "Imagine that you are responsible for seeing that there is good communication among co-operatives, and you find that there is a great deal of rumour and mis-information. What kind of structure could you set up to assure that everyone could always have correct information? Remember the lessons of the puzzles."

There were many solutions using times of common meeting to dispel rumours, but the cleverest suggestion and one that was subsequently implemented during my stay was to have a co-op question and answer show on the radio twice a week; it also promised to promote better understanding of the co-operative movement by the rest of the community.

THURSDAY MORNING, DECEMBER 16

Today I visited the father of a student in the masonry co-op, Mr. James Kofi, and heard his feelings about what his son, Samson, was experiencing in the co-op.

"You know, I was educated in school, but not until I had received my African education. I mean our traditional way. As a boy I went with other
boys to the beach. First we were taught by the older boys to swim and to manage dangerous waves. Then they taught us the launching of boats. After that, one by one, we would apprentice ourselves to a boat and learn to sail, to make and mend nets, to cast them and haul them, and especially to read the sky for the weather. We learned together, first from the older boys and after from the skilled men, and of course much from each other. We learned by doing the thing we were learning. And the subject matter of our education was the sea, its potential for giving a better life. My son does not study the sea as I did; he studies the materials of the earth. But he is getting a real African education."

THURSDAY AFTERNOON, DECEMBER 16

"Schools must in fact, become communities--and communities which practice the precept of self-reliance,...This means that all schools, but especially secondary schools and other forms of higher education, must contribute to their own upkeep; they must be economic communities as well as social and educational communities."

Julius K. Nyerere from "Education for Self Reliance."

This afternoon I was finally able to meet the director of the co-operative system, Mr. Charles Okole. * I was expecting to be received by a man in a business suit behind a desk but was pleasantly surprised to find him working in his garden, wearing patched Khaki. As we talked, he tied up his yam plants and weeded his lettuce and beans.

I was anxious to learn about the financial aspects of the co-operatives' operation, how much they cost, how many instructors were employed and who footed

* I had heard much about this singular man. He was trained in agricultural technology at Makerere an agriculture extension officer for eight years, he was responsible for a large scale co-operative swamp rice project. Later, he taught agriculture at the university here for several years before he became director of NMLCC.
the bill. To my amazement I discovered that the co-ops cost virtually nothing to the government and charge the students no tuition fees.

Each of the thirty co-ops with from eight to twelve students, manages its own finances, through its own productive labor. Only the salaries of the directors, a half-time accountant, and a half-time program development specialist are paid for by outside sources, in this case with money saved by the government from its use of expatriate volunteers in administrative jobs.

With the exception of the three cloth co-ops, all the co-operatives contract with a long-term skill model whose services are generally used half time by three co-ops. His salary is paid from revenues raised by all three. There is a highly structured and demanding conservation and dissemination of knowledge provided by these skill models, transmitted through learning modules and checked at many points.

Mr. Okole explained that the entire structure is what he calls team-competency-based. As he proudly showed me a large head of lettuce, he explained that a student did not take courses to pass from year to year. Individually he received achievement credits for competency-based modules, but these credits were of no value to him unless these were added with the achievement credits of other members of his co-operative team. When a team achieved a certain number of these credits it achieved a second-level status, new privileges and responsibilities, and the pride of accomplishment.

Members of teams at second-level status, for example, are entitled to have internships, a three-to-six week apprenticeship with a skilled artisan or tradesman which enables the student to see all facets of the vocation. Members also have the opportunity to take out a government loan to buy their own tools. At the second-level status they are expected to and take pride in providing first-level instruction to new co-operative teams, and they are expected to
take a greater part in contracting their services for the benefit of all the co-ops.

I asked Mr. Okole as he began to pick the ripe beans, about the use of contracting in the co-ops. "We have many kinds of contracts," he began. When you went to the mechanical co-operative you may have noticed the unusual fiberglass roof. This was the product of three reciprocal contracts. One of the mechanical boys noticed over a period of time that the fiberglass roofing material in the courtyard of an unfinished house owned by a big man in town was not being used, and that little progress was being made in the construction of the house.

He called on the Big Man, and outrightly made him an offer, the completion of his house for the translucent roofing materials he was planning to use for the porch. The boy had correctly observed that the man was in a financial pinch, and his offer was well-received. He then went to the masons co-op and offered as many hours labour making cement blocks—a tedious job—as it would take the masons to complete the house. The mechanics then presented the whole plan to his team, and after careful calculations by all parties, found that it was an arrangement that well-served the needs of all. Ingenious?

I was impressed, and asked him to tell me more about the contracts that co-ops had. "So many, I would have to pick unborn beans before I finished telling you about them, but there are two other kinds. We have several contracts with European and American importers, for example. I don't know whether you have seen the fine hammocks we make based on a traditional African hammock, or if you have seen our rattan furniture. We ship these to a concern in Vermont and another in Massachusetts, U.S.A.

"Another kind of contract we are developing is with some villages in the interior. It seems that some of our students, in the cloth co-op and in the
hammock/wood-carving co-ops, feel that they can do better if they settle in the countryside when their training is completed. This was actually a surprise for me, as it has been rare in the past for young people to want to return to the villages, but you can see that here is a case where they can return and take their trade with them and live for less money than in the city. They are looking for a village that will agree to build a workshop and supply them with raw materials, wood, fibres, and natural dyes for low costs in return for their helping to train children in the village to do their kind of work. I believe they will be able to train many to do this work. Our hammocks are very popular in U.S.A., as well as our rattan tables and chairs!

"There are two other contracts I have been thinking about. I would like to propose to the government that we train African students to replace expatriates in middle level occupations. Of course this would require a special sort of co-op, one that would not exist as a working team after the members were trained. But you know, the need tempts me in this direction, and we have such resources for practical training! I would also like to persuade one of the voluntary agencies or A.I.D. to give me a practical designer for a year. You know there are so many low level technological products co-operatives could produce. Our modular learning system is flexible enough to accommodate rapid learning of new technology. I have heard that American designers have invented low-cost radios which can be made for under a shilling, refrigerators for under three pounds, inexpensive brick-making machines, pipe-making machines, educational televisions and even re-cyclable dishes. Our co-operatives could be making all these things!"

"But perhaps you would like to know something of our philosophy and the intellectual sources of our energies, or have you already read about our history?" I admitted I hadn't and he asked me to remind him to get me a pamphlet when we returned to the house.
"You are no doubt acquainted with Julius Nyerere’s essay on Self Reliance." I said that I was.

"Our ability to rely on ourselves as individuals and parts of teams, rather than on the state or on extra-national sources of aid, is the first leg we stand on. (We pay our recurrent costs and we squeeze every drop from every resource, wasting nothing, wasting no-one, wasting no space.) We like to say that everyone is replaceable, because everyone here is trained to have many useful skills so that the team may still function if one person is for a time unable to perform his tasks, but no one is dispensable. All rely upon each other for the benefit of all. That is the second leg, co-operative interdependence.

"Our third leg is what I like to call Creative Intelligence, the belief that every person is a potential source of imagination and ingenuity who can be tapped for our needs. I wonder if you have seen our brainstorming in action?

"Through reasoning, which we teach in our academic courses, and through imagination, the creative intelligence of the African mind can solve any problem.

"The fourth leg of our philosophy is what I call Learning by Doing, what some have called incidental learning, others practical learning, some even inductive learning. Simply, it is the commitment to starting with the experience of a thing, seeing it, touching it, manipulating it, living with it for a while, and then and only then, but definitely then, moving toward the understanding of the thing. Without examples in the real world, our theory is empty, and without concepts and theory our examples are powerless fragments of disconnected reality. It is only through knowledge, experience, and the understanding of experience that we gain power to lead better lives. Ah...but I can go on and on. You know I am an educator at heart!

"The fifth leg...you have never seen an animal before with five legs? Well every animal carries an invisible fifth leg, the leg he stood on before he was
born, the leg of the past, in our case, the leg of African traditions. You see, so many of our innovations are simply the discovery and re-application of our past."
FOOTNOTES


APPENDIX

1. Non-formal learning alternatives
2. Horizontal and vertical peer teaching
3. Definition of competency-based education
4. Example of competency-based modular format lesson
5. Bibliography
NON-FORMAL LEARNING ALTERNATIVES

1. See "Non-Formal Alternatives to Schooling: A Glossary of Educational Methods" published by The Center for International Education, School of Education, University of Massachusetts, Amherst, Massachusetts 01002

2. Africa

East Africa

- Village polytechnics - Kenya
- Brigades - Botswana
- Work oriented literacy project - Tanzania
- Management training and advisory center - Uganda
- Ethiopian airlines
- Bako project - Ethiopia
- Kalusha Farm School - Zambia
- YMCA Farm School - Karatanga, Tanzania
- Lidep project - Tanzania
- Settlement Schemes for Youth - Uganda
- Christian Rural Service - East Africa
- Farmer training and extension - East Africa
- Cooperative education - Tanzania
- Kenya National Youth Service
- Mindolo Ecumenical Foundation - Zambia

North Africa

- Pre-Apprenticeship Training Centers - Tunisia

West Africa

- Vocational Improvement Centers - Northern Nigeria
- Pan-African Institutes for Development - Cameroon
- Ceramics Training Centers - Western Nigeria
- Nigerian Drivers' School - Nigeria
- Opportunities Industrialization Center - Nigeria
- AFCA - Cameroon
- National Vocational Training Center - Ghana
- Industrial Development Center - Nigeria
- Mancell's Development Center - Ghana
- United Africa Co. - Nigeria
- Farm Institutes - Kano, Nigeria
- Zapi - Cameroon
- Cenape - Ivory Coast
- Animation Rurale - Senegal
- National Women's Vocational Training Center - Ghana
- Inades - Ivory Coast
- Citizenship and Leadership Center - Nigeria
- St. Brigid's Social Center - Nigeria
HORIZONTAL AND VERTICAL NEED TEACHING

S - a skill model
SK - a skill or skills presented in competency-based modular format
✓ - competency in performance of the skill or skills taught
+ - competency in teaching the skill or skills
A1 - designation for a student of co-op A
ASSESS - assessment of a student's competency in the performance or teaching of a skill, performed by the skill model.

HORIZONTAL

Diagram of horizontal and vertical lines connecting different points labeled A, B, C, S, M, and SK with arrows indicating direction.

Tuesday — Wednesday —
VERTICAL

When a team reaches level two, by demonstrating that, as individuals, members have achieved a certain number of competency-based modules, and that as a team they have achieved minimum competency in specified areas, they are entitled to begin level two instruction, and will also have responsibility for teaching level one skills to a new co-operative team.

A level two student takes the competencies he has gained in level one and becomes a skill model for new level one students.
A DEFINITION OF COMPETENCY-BASED TEACHER EDUCATION

1From the Invitational Conference on Performance-Based Teacher Education sponsored by the American Association of Colleges for Teacher Education, Denver, Colorado, August 25-27, 1971; this should be considered a first draft as it does not represent a consensus opinion.
A DEFINITION OF COMPETENCY-BASED TEACHER EDUCATION

Essential Elements

1. Competencies (knowledge, skills, and behaviors) to be demonstrated by graduates are: (a) derived from an explicit conception of teacher roles, (b) stated so as to make possible assessment of student's behavior in relation to specified competencies, and (c) made public.

2. Criteria to be employed in assessing competencies: (a) are congruent with specified competencies, (b) make explicit expected levels of mastery under specified conditions, and (c) are made public.

3. Assessment of student's competence: (a) uses his performance as the primary source of evidence, (b) takes into account evidence of student's knowledge relevant to planning, analyzing, interpreting, or evaluating situations or behavior, and (c) makes use of evidence on the consequences of student behavior (on pupils) where valid and feasible.

4. Student's progress is determined by demonstrated competence (rather than by time or course completion).

5. Instructional program is intended to facilitate the development and evaluation of the student's achievement of the competencies specified.

Related Elements

6. Emphasis on exit, not entrance requirements.

7. Achievement-based, not time-based.

8. Field-centered.


10. Modularized instruction.

11. Multi-institutional pattern of organization.

12. Formative feedback to student regarding his progress.

13. Pre-service-inservice continuum.

14. Student accountability.

Associate Elements

15. Systemic approach; regenerative, open system.

16. Internal research component.
17. Training and protocol materials.
18. Utilization of the new technology.
19. Negotiation of instructional goals by faculty and students.
20. Both faculty and students are designers of instructional system.
21. The role of the teacher is viewed as an enabler of learning.
INSTRUCTIONAL MODULE DEVELOPMENT AND DISSEMINATION PROJECT

Instructional Module: Operational Definition and Description Format.

The following is an operational definition of the term instructional module as determined by sixth cycle Teacher Corps program development specialists at the meeting of September 22, 23, and 24, 1971:

An instructional module is a set of learning activities (rationale, objectives or objectives, prerequisites, pre-assessment, learning alternatives, post-assessment, and remediation) intended to facilitate the learner's acquisition and demonstration of a particular competency or particular competencies.

The following is an explanation of the module description format which will be used in the Instructional Module Development and Dissemination Project. The module description will consist of three sections: (1) a title page, (2) the body of the description, and (3) an appendix, if necessary.

The first page of the description consists of a title page which contains the following information:

1. The reference system designation.

2. The name of the teacher education program for which the module or module cluster was developed, a brief description of that program, and a brief description of the "teacher education student" for which the program was intended.

3. The name of the component of which the module or module cluster is a part.

4. The name of the module or module cluster.

5. The name, address, and phone number of the person responsible for the development of the module or the names of the persons responsible and the address and phone number of that person designated as the contact person.

6. The date of development and a brief description of its present state of development.

7. The comments of the developer or developers regarding any field test results.
Instructional Module: Operational Definition and Description Format; page 2.

8. The comments of persons—other than the person or persons responsible for the development of the module—who have used the module; these comments might include descriptions of additional learning activities which were used and feedback pertaining to the effectiveness of the module as perceived by both the user and his students.

9. If the title page is for a module cluster, it would include a list naming the modules within the cluster.

The body of the description is somewhat dependent upon the approach used in the development of the module. In those programs where a group of objectives form the basis for a single module, the body of the description would include statements regarding:

1. Rationale. The rationale should serve two major purposes: (a) to describe the purpose and importance of the objectives of the module in empirical, theoretical, and/or practical terms, and (b) place the module and the objectives of the module within the context of the total program.

2. Objectives. The objectives—either instructional or expressive—would specify the competency or competencies the student would be expected to demonstrate.

3. Prerequisites. Prerequisites to the module, if any, would be described; generally, these would be kept to a minimum.

4. Pre-assessment. The pre-assessment procedures would be detailed; any materials associated with those procedures would be described and could be included in appendix to the description of the module; generally, the pre-assessment procedures would provide the student with an opportunity to demonstrate mastery relevant to the objectives or certain of the objectives—to "test out." The pre-assessment is usually diagnostic in nature.

5. Learning alternatives. The learning alternatives are the various instructional options available to the student; each is designed to contribute to his acquisition of the objectives. In addition to those experiences which are instructor-designed, the student is always free to design his own. The student's responsibility is to meet the objective; he is not responsible for engaging in a particular set of learning activities.

6. Post-assessment. The post-assessment procedures would be described in some detail; these procedures would be those which are intended to permit the student to demonstrate achievement of a particular set of objectives.
Instructional Module: Operational Definition and Description Format; page 3.

7. Remediation. The last section of the body of the module description would describe the remedial procedures which would be undertaken with students who were unable to demonstrate achievement of the objectives on the post-assessment.

In those programs where a single objective forms the basis for a single module, the format described above would be equally appropriate and useful. However, in those programs where a single objective forms the basis for a single module which in conjunction with similarly developed modules is a part of a module cluster, a slight modification of the above format may be more useful. In this case, it is perhaps better to state the rationale for the module cluster and the general objectives of the module cluster before moving into a more detailed description of each of the modules which comprise the module cluster. All of this could easily be done within the format described above as this initial attention to those two aspects of the module cluster—rationale and general objectives—could be followed with a full description of each of the modules within the cluster.

Any materials which might be used as a part of the module—handouts, worksheets, bibliographies, pencil-and-paper pre-assessment or post-assessment instruments, for example—could be included in the appendix. Hopefully, the descriptions within the body of the description would be as complete as possible. For example, the learning alternatives section should describe as completely as possible the books suggested for reading; they would be fully described as to title, author, publisher, copyright date, price, and so forth; indeed, a brief annotated bibliography would be most helpful in this regard. Although we would hope that as much of this kind of material could be not only described in the body of the module description but also included in the appendix to the module description, certain materials cannot be included in the appendix. Certain copyrighted materials could not, for example; persons submitting module descriptions will have to use good judgment in this regard. A good rule of thumb might be: if the information would be potentially helpful to a user of the module and if sharing that
information does not infringe on the rights of another, let's share it.
BIBLIOGRAPHY

Books
Kenyatta, Jomo, Facing Mt. Kenya, Chapter 5, "System of Education" (Prior to the Advent of the Europeans.)

Articles and Pamphlets


