

# Single-Concept Publications for Teaching Cassava Production Practices

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Single-concept publications can have a great impact in teaching agricultural and home economics practices even though the reading level of the audience may be low.

Used purposefully, these publications can summarize main points, help to recall discussion, reinforce learning, and serve as a reference after training. These functions help to improve communication in the teaching situation, especially in developing countries.

In this article we describe single-concept publications, and then provide an example of their development and use in an international development project.

## Single-Concept Publications: The Background

During the past 20 years, the single-concept publication has been widely used in the United States, both as a stand-alone handout and as part of a loose-leaf reference handbook on many agricultural and home economics subjects. Examples are Nebraska's *Neb-Guide* and the *Missouri Agricultural Guide*.

The format has been popular in the U.S. for several reasons. Single-concept publications can be combined into a handbook and be made available as a reference for field staff and the publications are easy and inexpensive to produce. For the extension agent, it is more to the point to hand a one-page publication on soybean cyst-nematode to a farmer than to give (or sell) him a 75-page publication on soybean produc-

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tion; it allows the extension specialist who develops the single-concept publication to be more concise.

Perhaps the best case for using single-concept publications is often ignored—the potential for use in educational program development. Single-concept publications put solid principles of education into practice. For example, research tells us that adults learn best when the learning comes in small steps, logically sequenced. This principle is especially important with low-educational-level audiences as well as audiences who will, in turn, teach these steps to others.

The single-concept publication can form a practical base for a training module to which can be added visuals, handouts, worksheets, a lesson plan, teaching techniques that allow hands-on experience in the field, reinforcement such as field trips to see results, etc.

### **Single-Concept Modules**

Production of the publication is not the first task in module development. While steps may vary depending on the approach of the training developers, standard processes in the design and development of single-concept modules to be used in teaching are: audience analysis—where audience characteristics and needs guide selection of subject matter; development of educational objectives specific enough to help in selecting exact content for teaching and to give a basis for selection. A lesson plan or leader's guide can then be developed to outline the facets of the concept and form a rough draft for the base publication.

Central to the entire development process of the single-concept publication is the analysis of the concept. Working closely with the content specialist, the training designer must go through these steps:

1. Listing the attributes critical to the concept
2. Determining whether the identified attributes are both necessary and sufficient to reliably distinguish examples of the concept from non examples (better done with naive learners)
3. Considering whether other attributes or a small set would be sufficient to define the concept.

Media, active teaching techniques, and relevant technologies can now be chosen to teach to each objective under each concept. Based on the concept analysis process,

sequencing of the examples and definitions of the concept can be using inductive or deductive approaches. A combined approach is very useful in situations where learners are not likely to understand the initial definition. In this approach examples are provided first. From the examples, a rule—a definition of set of attributes—is derived. Then the rule is applied to further examples. Simple pretesting strategies can be designed to test the appropriateness of these choices.

Taking into account the audience, objectives, specific content, and teaching techniques, support materials including the base publication can now be put into final form.

### **Single-Concept Publications: An Example**

Single-concept publications have been used to advantage in training collectivity agronomies in cassava production in the Bandundu region of Zaire. (In Zaire, several villages are organized into a larger collectivity and agronomies are appointed at the collectivity level.)

To increase use of a new variety of cassava in the region and encourage adoption of several new production practices, the agronomic research and outreach project (RAV), an umbrella project for national commodity research programs in cassava, maize, and legume crops in Zaire, developed training for collectivity agronomies in the area around the Kiyaka research station.

Training decisions were based on both needs analysis and audience analysis. Then the RAV outreach specialist and the training specialist chose seven concepts for training the collectivity agronomies in cassava production: site selection; planning for cassava production; selecting varieties and planting material; land preparation; field maintenance; harvesting; processing and storage.

Seven publications were written for each concept. Each of these publications formed the basic information for a training module. Every module could stand alone or be incorporated with others to provide a longer period of training as well as an enlarged content pool. Each single-concept publication included new or innovative practices. Combined, they formed the nucleus of a package of agricultural practices backed up by research in regional cassava production.

## **Interview Process Used**

To develop the single-concept publication, the RAV used an interview process. The training specialist interviewed the outreach specialist, and then wrote a rough draft of the seven publications. Each interview took about one and a half hours and was an in-depth definition of the attributes of a single concept of cassava production. The interview technique for development of short publications was easier than asking the specialist to take the time to write a large (and many times less useful) publication on his own initiative. This interview process also helped bring out aspects of the concept that might have been missed otherwise.

After the interview, the training specialist wrote a draft of each publication in English (his native language) and then corrected and refined the draft as necessary with the outreach specialist (whose native language was also English). The English draft was written at a suitable reading level, 7–9 years of schooling, for the audience.

The next step was translation into French, the official language used by the agronomies. As a pretest measure, this translation was then reviewed by the outreach specialist, training specialist, and a Zairian scientist working with the RAV program. In some cases the wording was changed or simplified as indicated by the pretest data.

## **English and French Needed**

This process of translation was difficult because there was a continuous risk of increasing the reading level. Where possible, it would be better to write in the language of the final publication. However, in the Zairian case there was a need for both English and French versions.

Single-concept publications need not be expensive or sophisticated to be useful. The RAV publications were typed and photocopied. Line drawings or simple illustrations were added easily.

After the single-concept publications were completed, teaching techniques and other support material were designed. In the RAV training program, the collectivity agronomies work with villages to organize multiplication fields using the new practices. While the agronomies take the responsibility to work with the villages, the project outreach

specialist monitors them and continues to advise where necessary.

RAV's training program in cassava production is now in its second year of operation. The outreach specialist estimates 50–70 percent success with the targeted audiences in following the agricultural practices advocated during the one-week training session. The specialist believes these results are realistic and satisfactory at this stage. Reactions to the single-concept publications have been positive among the collectively agronomies. There is evidence that the agronomies continue to use the publications and keep them after the training.

## **Summary**

The RAV has made excellent use of single-concept publications as training tools (for which they were developed) for cassava production. However, if used in a reference handbook, the concepts could be broken down into still smaller steps. It is possible that use of smaller facets of a large concept for each publication would be more effective.

The single-concept publication is a made-to-order format for use with teaching modules. A major topic can always be divided into a series of simpler concepts that are easier to handle. Where training/communications specialists and subject matter specialists can cooperatively develop the training, it is much easier to consider the development of publications and teaching materials as a single process. It can also help to make publications more relevant and useful, educational tools.