

Keys, Kudzu and other Vines: The use of paper copiers to produce pictures of plants that students can be use in the production of a dichotomous key

Marsha E. Fanning

Biology Program, School of Natural Sciences
Lenoir-Rhyne College
Hickory N.C. 28603
fanning@LRC.edu

This exercise was developed in an attempt to help students learn some basic botany (simple vs. compound leaves, opposite vs. alternate, etc.) and to use taxonomic keys in a more interactive way than usual. A variety of vines (often considered weeds) can be collected from almost any locale. Placing the fresh vines directly on a copier can give what look almost like herbarium specimens. We reduce the copies to 65% so that they can fit on normal 8.5 x 11-inch paper, and then make a set of copies of all of the plants for each student group. We use about 16 plants, approximately half are compound and half are simple. These copies of various vines are used for demonstrating major visual characteristics. These pictures and characteristics are then used to develop a short dichotomous key. Sorting the pictures into two piles and then dividing each pile by another set of characteristics helps in the process of developing paired statements to be used in the key. The key can then be entered on the computer along with the pictures to give a finished product. Copies of the key can then be printed and used to identify local specimens in the field.

This approach was first done as a part of a summer enrichment workshop for minority students who were working with Kudzu. It worked so well that we have incorporated it into our basic Introductory Biology course. Using copies of the plants first, before the students see real plants, eliminates a lot of characteristics that distract students – all photocopies are black and white, texture is lost, and so forth. It is amazing however, the amount of detail that remains. You can see leaf margins, lobes, tendrils, thorns, hairs, etc. By using the copies to create the key you can do this exercise any time of the year. However, one of nicest things about this exercise is that after the students have prepared their own keys they can use them to key out real live plants, either in the field or from specimens collected by the instructor. I have found that many of the vines are available year round, such as ivy, vinca, smilax, etc., and can be collected even in the winter for students to use in testing their keys.

Examples of the keys developed by the summer students were shared during the workshop along with interesting Kudzu tidbits.

Reprinted From: Fanning, M. E. 2004. Keys, Kudzu and other vines: The use of paper copiers to produce pictures of plants that students can be use in the production of a dichotomous key. Page 346, *in* Tested studies for laboratory teaching, Volume 25 (M. A. O'Donnell, Editor). Proceedings of the 25th Workshop/Conference of the Association for Biology Laboratory Education (ABLE), 414 pages.

- Copyright policy: <http://www.zoo.utoronto.ca/able/volumes/copyright.htm>

Although the laboratory exercises in ABLE proceedings volumes have been tested and due consideration has been given to safety, individuals performing these exercises must assume all responsibility for risk. The Association for Biology Laboratory Education (ABLE) disclaims any liability with regards to safety in connection with the use of the exercises in its proceedings volumes.