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ABSTRACT

The primary purpose of this study is to highlight similarities and differences among 17 computer-assisted career guidance (CACG) systems so that practitioners, CACG system developers, policy makers, and researchers may make informed decisions concerning such systems. The CACG systems in the analysis are: (1) Career Information System; (2) Career Visions; (3) Choices; (4) Choices CT; (5) Choices Jr; (6) MODULAR C-LECT; (7) C-Lect Jr.; (8) COIN; (9) COIN Jr; (10) DiSCOVER for Colleges and Adults; (11) DiSCOVER for High Schools; (12) DiSCOVER for Junior High and Middle Schools; (13) Guidance Information System Version 17; (14) GIS II; (15) SIGI PLUS; (16) VISIONS; and (17) VISIONS PLUS. The analysis looks at features including system content, user friendliness, and support materials and services available from the developer. It also looks at costs, such as system-specific costs, and constant costs that exist irrespective of the specific system used. A secondary purpose of the study is to provide a comprehensive description of the 17 systems included in this analysis by identifying state, territory, and city-specific availability of occupational information in the CACG systems and by identifying the country location, geographic data base origin, and language for each system. Eleven tables are included. Contains four pages of references. (Author/JE)

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A Differential Feature-Cost Analysis of Seventeen Computer-Assisted Career Guidance Systems: Technical Report Number 10

(Fifth Edition)

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**A Differential Feature-Cost Analysis of Seventeen Computer-Assisted Career Guidance Systems:
Technical Report Number 10 (5th Ed.)**

Abstract

The primary purpose of this study is to highlight similarities and differences among seventeen computer-assisted career guidance (CACG) systems so that practitioners, CACG system developers, policy makers, and researchers may make informed decisions concerning such systems. The specific CACG systems included in this analysis are: 1) the Career Information System (University of Oregon, 1993), 2) Career Visions (University of Wisconsin-Madison, 1994), 3) Choices (Careerware: ISM Systems Corporation, 1993), 4) Choices CT [for Adults in Career Transitions (Careerware: ISM Systems Corporation, 1993)], 5) Choices Jr [for Junior High and Middle Schools (Careerware: ISM Systems Corporation, 1993)], 6) MODULAR C-LECT (Chronicle Guidance Publications, Inc., 1993), 7) C-Lect Jr. (Chronicle Guidance Publications, Inc., 1993), 8) COIN (COIN Educational Products, 1993), 9) COIN Jr [for Junior High and Middle Schools (COIN Educational Products, 1993)], 10) DISCOVER for Colleges and Adults (American College Testing Program, 1993), 11) DISCOVER for High Schools (American College Testing Program, 1993), 12) DISCOVER for Junior High and Middle Schools (American College Testing Program, 1993), 13) Guidance Information System Version 17 (Riverside Publishing Company, 1993), 14) GIS II (Guidance Information System) (Riverside Publishing Company, 1993), 15) SIGI PLUS (Educational Testing Service, 1993), 16) VISIONS (American College Testing Program, 1993), and 17) VISIONS PLUS (American College Testing Program, 1993). For the purposes of this analysis, features include: 1) system content, 2) user friendliness, and 3) support materials and services available from the developer, while costs include: 1) system-specific costs, and 2) constant costs that exist irrespective of the specific system used. The data presented in this analysis were gathered from CACG software use, support materials provided by the developers, and telephone interviews with the developers. The integration of differential feature-cost analyses into the process of software selection is also discussed. A secondary purpose of this study is to provide a comprehensive description of the seventeen CACG systems included in this analysis by identifying state territory, and city-specific availability of occupational information in the CACG systems and by identifying the country location, geographic data base origin, and language for each system.

Background

Computer-assisted career guidance (CACG) systems have become one of the most common comprehensive counseling and guidance resources.¹ For the purposes of this paper, a computer-assisted career guidance (CACG) system is defined as

a system of interrelated computer-based components designed to facilitate self-assessment, the generation of occupational and educational alternatives, and the use of occupational, educational, and employment information. Such systems are often coupled with counseling interventions and various print and media-based support resources, and are used within an organization to assist individuals in making current career decisions as well as improving their capacity to make effective career decisions in the future (Sampson, 1994a).

An essential element in evaluating the appropriateness of potential systems involves an analysis of data on the effectiveness of CACG systems with different populations using various counselor intervention strategies. The process of completing research and evaluation studies is, however, a time-consuming process. It is not at all unusual to have research appear in the literature on CACG system versions that are no longer available. CACG systems are also dynamic, in that revised or entirely new versions of software appear regularly in response to user feedback and theoretical advances, as well as innovations in computer software and hardware. [See Reardon, Sampson, Ryan-Jones, Peterson, and Shahnasarian (1988), for a discussion of the comparability of different versions of a single CACG system]. These two problems, the time lag in publishing research and evaluation studies and the rapid evolution of CACG systems, necessitate a multidimensional approach to the software evaluation process.

The use of a differential feature-cost analysis offers a potential solution to the above problems. A differential feature-cost analysis allows the comparison of two or more CACG systems in terms of the features available with respect to the costs involved. Gati (1990) stated, "a feature analysis of the systems may be used to eliminate a particular system because of the presence (or absence) of a critical undesirable (or necessary) feature" (p. 122). For the purposes of this analysis, features include 1) system content, 2) user friendliness, and 3) support materials and services available from the developer, while costs include: 1) system specific costs, and 2) constant costs that exist irrespective of the specific system used. Because this type of analysis is limited to features and costs, both of which are known at the time software is released, the findings can be made available in a very timely fashion.

A differential feature-cost analysis is best integrated into the planning phase of the implementation process within an organization (Sampson, 1984) as follows:

- 1) Assess current client and organizational needs;
- 2) Briefly review a differential feature-cost analysis to become familiar with available features;
- 3) Weigh the importance of various features (Gati, 1990; Krumboltz, 1990; Oliver, 1990) and cross out features that are not relevant in light of client and organizational needs (Oliver, 1990) and cross out features that are constant across systems (all receiving a "yes") (Jepsen, 1990);

¹ See Sampson and Reardon (1991) for a general examination of trends and problems associated with CACG design and use, and Sampson (1994b) for an exploration of factors that facilitate and inhibit the design and use of CACG systems. Comprehensive recommendations for improving the design and use of CACG systems have been proposed for North America (Sampson, Reardon & Lenz, 1991) and for Europe (Banks & Watts, 1990). Bibliographies are available that address CACG general issues (Sampson & Reardon, 1993a) and CACG ethical issues (Sampson, 1993).

- 4) Review a differential feature-cost analysis to identify CACG systems that have the potential to meet client needs within the context of the goals, theoretical orientation, staff, and financial resources of the organization;
- 5) Evaluate the software identified in the previous step in terms of potential effectiveness in meeting current client and organizational needs by having staff actually use the software, reviewing support materials from the developer, reviewing documents that describe system use and evaluate system effectiveness, discussing system use with staff and clients from other organizations, and temporarily using the system with actual clients;² and
- 6) Evaluate the remaining software in terms of costs (Maze, 1985) and available financial resources (Krumboltz, 1990).

"The interaction of CACG system features and costs with varied client populations and organizational variables, is too complex to allow one "best" system to exist for all situations (Sampson & Reardon, 1990, p. 146). As a result, the task of the practitioner is to ask the question: "Given our client population, organizational structure, financial resources, staff (time and skills), and historical/theoretical approach to service delivery, which CACG system provides the features that we need at an acceptable cost, and has been shown to be effective for clients under these operating conditions?" (Sampson & Reardon, 1990, p. 146).

Purposes of the Study

The primary purpose of this study is to highlight similarities and differences among seventeen computer-assisted career guidance systems, so that practitioners may make more informed decisions concerning the adoption of such systems, CACG system developers may more systematically present information about their software, policy makers may monitor the developing scope of system features and costs, and researchers may more fully describe CACG treatment interventions in their studies. The specific CACG systems included in this analysis are: 1) the Career Information System (University of Oregon, 1993), 2) Career Visions (University of Wisconsin-Madison, 1994), 3) Choices (Careerware: ISM Systems Corporation, 1993), 4) Choices CT [for Adults in Career Transitions (Careerware: ISM Systems Corporation, 1993)], 5) Choices Jr [for Junior High and Middle Schools (Careerware: ISM Systems Corporation, 1993)], 6) MODULAR C-LECT (Chronicle Guidance Publications, Inc., 1993), 7) C-Lect Jr. (Chronicle Guidance Publications, Inc., 1993), 8) COIN (COIN Educational Products, 1993), 9) COIN Jr [for Junior High and Middle Schools (COIN Educational Products, 1993)], 10) DISCOVER for Colleges and Adults (American College Testing Program, 1993), 11) DISCOVER for High Schools (American College Testing Program, 1993), 12) DISCOVER for Junior High and Middle Schools (American College Testing Program, 1993), 13) Guidance Information System Version 17 (Riverside Publishing Company, 1993), 14) GIS II (Guidance Information System) (Riverside Publishing Company, 1993), 15) SIGI PLUS (Educational Testing Service, 1993), 16) VISIONS (American College Testing Program, 1993), and 17) VISIONS PLUS (American College Testing Program, 1993). A secondary purpose of this study is to provide a more comprehensive description of the seventeen CACG systems included in this analysis, by identifying state, territory, and city-specific availability of occupational information in the CACG systems and by identifying the country location, geographic data base origin, and language for each system.

² See Bridges (1987), Forrer (1987), Maze (1984), Maze (1989), Maze and Cummings (1982), National Career Development Association (1991), and Riesenberg (1984) for detailed descriptions of the software evaluation process. Also see the Association of Computer-Based Systems of Career Information (1992), Caulum and Lambert (1985), American Association for Counseling and Development (1988), the National Career Development Association (1988), the National Board for Certified Counselors (1989), and the American Psychological Association (1986) for national standards on the development and use of CACG systems.

Methodology

CACG System Selection Criteria

The following criteria were used in selecting CACG systems for inclusion in this analysis: 1) Provision of system components that address self-assessment, the generation of occupational alternatives, and the delivery of occupational information; and 2) Use as a computer-based career information delivery system in more than one state, territory, or city; or 3) Use in more than 500 sites in the United States.

Establishment of Features and Costs

Bloch and Kinnison (1989), Harris-Bowlsbey (1983a; 1983b; 1984; 1985), Heppner and Johnston (1985), Katz and Shatkin (1983), and McKinlay (1984) suggested features which were used to develop system content criteria. The criteria for user friendliness were taken from the evaluation standard developed by Sampson and James (1984) as well as features described by Heppner and Johnston (1985) and Bloch and Kinnison (1989). The criteria for support materials and services available from developers were derived by the authors via discussions with system developers. Cost criteria were taken from Maze (1985) and discussions with system developers.

This is the fifth edition of CACG system feature-cost analyses completed at Florida State University. With each subsequent edition, additional CACG systems and features have been added. By adding additional CACG systems, as suggested by Garcia and Plansker (1990), the analysis more accurately reflects the current range of career guidance practice. In the process of analyzing each CACG system for this study, the authors chose to add new features to the analysis, and to subdivide earlier feature categories to better reflect the contents of the seventeen systems.

Procedures

A eleven member research team was assembled to conduct this analysis. The research team met to review the previous feature-cost analysis and the purposes of the present research. Each member of the research team agreed to be the lead researcher for one or more systems. Each lead researcher used the features associated with their respective system(s) and reviewed support materials available from the CACG system developer(s). Telephone contacts were used to clarify specific questions related to features. The research team then met as a group several times to discuss common criteria for features and to suggest the addition of new features or the deletion of previous features. In situations where different terminology was used by developers to represent similar features, a "/" mark was used to combine terms, e.g., work tasks/activities. After data collection was completed, a second researcher independently verified the accuracy of the data recorded by the lead researcher. After all feature tables were complete, one researcher compiled cost data from telephone contacts with developers or their representatives. A draft of the report was then sent to the developers of each system to identify factual errors and discuss the criteria for receiving a "yes" or "no" for specific features in question. Factual errors were then corrected and developer comments were taken into consideration by the authors in completing the analysis. The authors assume responsibility for the quality of the analysis and related interpretations that are included in this study.

Limitations

While every attempt has been made to be accurate, the reader should be aware of the inherent limitations of any methodology. First, the following analysis does not examine the effectiveness or desirability of the features identified for the seventeen systems. In considering effectiveness, Jepsen (1990) stated:

The vast amount of information included in the findings [3rd Edition of this feature-cost-analysis] required some simplification. But the mere presence of a feature as part of any complex system does not assure its effectiveness. By analogy one would not always buy the auto with the most "whistles and bells" rather than the one where the whistles actually made a difference, as the warning devices telling the operator that the door is ajar or the

signal that your turning light is flashing. Many competing sounds are a nuisance rather than a help. Likewise, too many CACG features are not necessarily a sign of system strength (p. 130).

Krumboltz (1990) noted a similar caution when he stated:

For example, it is reported that there are videotapes for counselor training available in five out of the nine systems under review [3rd Edition of this feature-cost-analysis]. A mechanical use of these guidelines would give an equal weight to each of the five programs for having such a videotape. However, some of these videotapes must be superior to others in their creative artistry, their ability to communicate effectively and their ability to maintain viewer interest. The existence of a videotape could be an advantage or a disadvantage depending on the quality of the tape itself. Similarly, each of the other features might be executed to different standards of excellence (p. 134).

With respect to desirability, Gati (1990) cautions that CACG features initially perceived as desirable may actually, upon more critical reflection, be judged as unnecessary or detrimental in relation to good career guidance practice. In view of the variability in both the effectiveness and desirability of various features, the reader is strongly encouraged to examine the CACG research and evaluation literature to ascertain the relative merit of these features. In order to help individuals locate appropriate literature on system design and performance, system developers often provide system-specific bibliographies upon request. Additional system-specific bibliographies are available as follows: Choices (Sampson & Reardon, 1993b), DISCOVER (Sampson & Reardon, 1993c), and SIGI PLUS (Sampson & Reardon, 1993d).

A second limitation involves the use of a "checklist" approach in presenting the data. In an effort to present feature data in a succinct manner, a dichotomous yes - no "checklist" comparison of systems was used, i.e. "Feature X: Does System A have it? Does System B?" This approach effectively simplified a massive amount of data. However, potential problems occur when this methodology oversimplifies and obscures reality. Certain features cannot be adequately explained by this "yes" - "no" analysis. For example, the checklist indicates that System A handles "understanding life-career roles" and System B does not, while System B handles "issues related to child care" but System A does not. These statements may be true, but not fully informative. The real point in these examples is that where System A concentrates more on general concepts, System B offers more specific information on coping with new life-career roles. The decision as to which approach is "best" depends on typical client needs in a particular setting as well as the theoretical orientation and assumptions of staff members.

Also related to the limitation of using a "checklist" approach, the awarding of a "no" for any given system feature is not necessarily "bad" and the awarding of a "yes" for any given system feature is not necessarily "good." In some cases a "no" may not indicate the lack of a relevant system feature. For example, if a system is not designed to use function keys, then a "yes" for having an introductory orientation to function keys is irrelevant. Conversely, a "yes" may not indicate the presence of a relevant system feature. For example, if the system uses a conceptual schema for organizing the world-of-work that a professional views as inappropriate, then a "yes" for this system feature is irrelevant.

Oliver (1990) noted that the checklist approach taken in this feature-cost analysis, "is a tool to be used in evaluating a CACG system for a specific population. Totaling the "yes" and "no" items does not constitute an evaluation in and of itself" (p. 139). Therefore, this comparative analysis is not a "score sheet," but a preliminary guide for further detailed consideration about whether a

particular feature is important for a given clientele. It is hoped that although this method may blur a few trees, it can provide a useful map of the forest.³

Results

The original feature-cost analysis of SIGI PLUS and DISCOVER for Adult Learners (Sampson, Peterson, Domkowski & Reardon, 1986) had 137 feature items. The first (Sampson, Peterson, Reardon, Evans, & Domkowski, 1989), second (Sampson et al., 1989), third (Sampson et al., 1990), and fourth (Sampson et al., 1993) editions of subsequent feature-cost analyses had 353, 424, and 647 items, respectively, while the present analysis includes 540 items for the high school/college and adult systems and 162 items for the junior high/middle school systems. Not only have developers of CACG systems added features, but the inclusion of additional systems with distinct features in the analysis has also dramatically increased the number of features used in this review.

The results of the analysis are provided in a series of Tables. Tables 1 through 4 provide data on 12 CACG systems used in high school, college, employment service, vocational-technical school, library, rehabilitation, correctional, and military settings: Table 1 includes system content; Table 2 includes user friendliness; Table 3 includes support materials and services available from the developer; and Table 4 includes costs. Tables 5 through 8 provide a similar sequence of data on 5 CACG systems used in junior high/middle school settings. Table 9 identifies state, territory, and city-specific availability of occupational information in the CACG systems, including official governmental designation as a computer-based career information delivery system (CIDS).⁴ Table 10 identifies the country location, geographic data base origin, and language for the CACG systems included in this report. Table 11 provides the addresses and phone numbers of CACG system developers to assist the reader in continuing the evaluation process.

Discussion

In drawing conclusions from Tables 1 through 8, it is important to consider the following caveats. First, CACG system features vary considerably in perceived importance among practitioners, CACG system developers, policy makers, and researchers. The capacity to identify occupational alternatives by different key variables, the inclusion of different categories of occupational and educational information, or the inclusion of an integrated decision-making process that guides an individual's use of the system, could each be valued very differently among professionals. Second, CACG system costs vary considerably according to base price and pricing structure. Variations in discounts for leasing more than one copy of the software, discounts for

³ For further discussion of methodological issues, see Garcia and Plansker (1990), Gati (1990), Jepsen (1990), Krumboltz (1990), and Oliver (1990) for critical reviews of the third edition of this feature-cost analysis (Sampson, Reardon, Humphreys, Peterson, Evans, & Domkowski, 1990) and Sampson and Reardon (1990b) for a rejoinder and a discussion of implications for practitioners, researchers, CACG system developers, and public policy makers. While acknowledging the value of adding more qualitative, outcome-oriented judgments to increase the utility of this analysis for software selection, such an effort is beyond the practical scope and resources available for this study. The present analysis is intended to provide a foundation for subsequent, more comprehensive evaluations of CACG systems.

⁴ Lester and Ollis (1988) defined CIDS as, "computer-based resources that provide information on occupations and related education and training opportunities" (p. 205). Hopkins, Kinnison, Morgenthau, and Ollis (1992) stated that CIDS, "provide useful information for people who are exploring, planning, or making decisions about careers. CIDS contain national, state, and local information about occupations, educational and training institutions and programs, and related subjects. . . . Most of these systems are computer-based, but other media are also used to provide information. Tabloid newspapers and telephone hotlines, for example, can reach people in areas without access to computerized systems" (p. 1).

multi-year leases, the option for using software on multiple computers at one institution at no additional cost, multiple institution software discounts, state-wide software discounts, and unit costs of nonconsumable and consumable support materials may have considerable impact on the ultimate costs over time. Decisions regarding CACG system adoption should be based on a careful analysis of the interaction of features, costs, and the context for implementation of the system. The context for implementation could include the mission of the organization, theoretical assumptions of counseling and guidance, staff competencies, and the size of the organization. The findings of this report can be a starting point for making decisions about CACG adoption.

As shown in Table 9, ten of the seventeen CACG systems examined in this study provide state-specific occupational information. In many cases, State Occupational Information Coordinating Committees (SOICCs) have recognized the efforts of a CACG system developer to provide state-specific information by designating a CACG system as the official CIDS for that state (or territory/city). Even when a SOICC has recognized one system, in some cases other CACG system developers have still made the effort to provide state-specific information. It appears that several CACG system developers have made a strong commitment to providing state-specific information in a variety of states.

Table 10 indicates that the use of the seventeen CACG systems included in this analysis is beginning to spread beyond the original countries of origin. It would appear that CACG systems are gradually becoming an international resource for the delivery of career guidance services. The international availability of CACG systems and CACG system data bases has the potential to further encourage the development of a global economy by facilitating the education, training, and employment of individuals across national borders.

Conclusion

Hopefully, by making it easier to examine the features and costs of CACG systems, professionals will be both better motivated and more capable of dealing with the complex evaluative considerations that undergird the selection of CACG systems for specific purposes and settings. The ultimate effectiveness of this feature-cost analysis, therefore, can be measured by the willingness of professionals to commit the time and energy to move beyond basic surface-level evaluations to more theory-based, context-specific, comprehensive evaluations of CACG system performance. The ultimate beneficiaries of such an effort would be the millions of adolescents and adults who seek assistance each year in making career choices (Sampson & Reardon, 1990).

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Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
Introduction												
Overview of system content ⁽¹⁾	yes	no	yes	yes	yes	yes	yes	yes	yes ⁽²⁾	no	yes	yes
Explicit recommended pathway for use of the system based on user characteristics ⁽³⁾	no	no	no	no	no	no	yes	yes	yes ⁽⁴⁾	no	yes	no
Assessment												
Readiness for career choice	no	no	no	no	no	no	yes	yes	no	no	no	no
Clarify life-career roles	no	no	no	no	no	no	yes	no	no	no	no	no
Clarify life transitions	no	no	no	no	no	no	yes	no	no	no	no	no
Values clarification exercise ⁽⁵⁾	no	no	no	no	no	no	yes	yes	no	no	yes	no
Capacity to complete paper-and-pencil version of on-line assessment prior to computer use ⁽⁶⁾	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
Standardized tests administered on-line ⁽⁷⁾												
• Career Area Interest Checklist	no	no	yes	yes	no	no	no	no	no	no	no	no
• Harrington-O'Shea Career Decision-Making	no	no	no	no	no	no	no	no	yes	yes	no	no
• Temperament Survey	no	no	no	no	yes	no	no	no	no	no	no	no
• UNIACT Interest Inventory	no	no	no	no	no	no	yes	yes	no	no	no	no
Capacity to input scores from paper-and-pencil administration of standardized instruments ⁽⁸⁾												
• ACT Assessment Program (CPP)	no	no	no	no	no	no	yes	yes	no	no	no	yes
• ASSET	no	no	no	no	no	no	yes	yes	no	no	no	yes
• ASVAB	yes	yes	yes	yes	yes	yes	yes	yes	no	no	no	yes
• Career Area Interest Checklist	no	no	yes	yes	no	no	no	no	no	no	no	no
• Career Assessment Inventory	yes	yes	no	no	no	no	yes	yes	yes	yes	no	yes
• CAPS	no	no	no	no	no	yes	yes	yes	no	no	no	yes
• COPS	no	yes	no	no	no	yes	yes	yes	no	no	no	yes
• Differential Aptitude Tests	yes	no	no	no	no	no	yes	yes	no	no	no	yes
• GATB	yes	yes	yes	yes	yes	yes	no	no	no	no	no	no
• Harrington-O'Shea CDM	no	no	no	no	no	no	yes	yes	yes	yes	no	yes
• IDEAS	no	yes	no	no	no	no	no	no	no	no	no	no
• Kuder GIS	no	no	no	no	no	no	yes	yes	no	no	no	yes
• OVIS II/EXPLORE	no	yes	no	no	no	no	yes	yes	no	no	no	yes

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
• PLAN	no	no	no	no	no	no	yes	yes	no	no	no	yes
• Self-Description Inventory	no	yes	no	no	no	no	no	no	no	no	no	no
• Self-Directed Search	yes	yes	no	no	yes	yes	yes	yes	yes	yes	no	yes
• Strong Interest Inventory	yes	yes	no	no	yes	no	yes	yes	yes	yes	no	yes
• UNIACT Interest Inventory	no	no	no	no	no	no	yes	yes	no	no	no	yes
• Vocational Preference Inventory	no	yes	no	no	no	no	no	no	no	no	no	no
• Wisconsin Student Assessment	no	yes	no	no	no	no	no	no	no	no	no	no
Capacity to deactivate assessment functions as part of the software configuration process	no	no	yes	yes	yes	no	no	no	no	no	yes	no
Identifying Occupational Alternatives												
Capacity to select specific variables for identifying occupational alternatives												
• abilities/skills/activities	yes	yes	yes	yes	no	no	yes	yes	yes	yes	yes	yes
• aptitudes	yes	yes	yes	yes	no	no	yes	yes	yes	yes	no	yes
• ASVAB occupation composite	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• base occupation	no	no	yes	yes	no	no	no	no	yes	yes	no	no
• branches of military	no	yes	no	no	no	no	yes	yes	no	yes	no	yes
• CCPS/CAPS clusters	no	no	no	no	yes	yes	yes	yes	no	no	no	yes
• credentials	no	yes	no	no	no	no	no	no	no	no	no	no
• education/training	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• employment outlook	no	yes	yes	yes	no	no	yes	yes	yes ^(e)	yes ⁽¹⁰⁾	yes	yes
• GOE ⁽¹¹⁾ numbers/areas	no	yes	yes	yes	yes	no	no	no	yes	yes	no	no
• Holland codes/scores/types	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• interests/fields of knowledge	yes	yes	no	no	yes	yes	yes	yes	yes	yes	yes	yes
• industry	no	yes	yes	yes	no	yes	no	no	yes	yes	no	no
• location (urban/rural)	yes	yes	no	no	no	no	no	no	no	no	no	no
• military gender restrictions	no	no	no	no	no	no	no	no	yes	yes	no	no
• military work tasks	no	no	no	no	no	no	no	no	no	no	no	no
• officer/enlisted status	no	yes	no	no	no	no	yes	yes	yes	yes	no	yes
• physical demands/danger (specific)	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• primary physical activities (general)	yes	yes	yes	yes	yes	yes	no	no	no	no	no	no
• programs of study/majors	no	yes	yes	yes	no	yes	yes	yes	no	no	yes	yes
• salary	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
• SOC fields of work	no	yes	yes	yes	no	no	no	no	yes	yes	no	no
• temperaments	yes	yes	yes	yes	yes	no	no	no	yes	yes	no	no
• values	yes	no	no	no	no	no	yes	yes	yes	yes	yes	no
• working conditions/hours/travel	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Capacity to sort occupational list by various characteristics	no	yes	yes	yes	no	yes	yes	yes	no	no	no	yes
Capacity to identify the number of occupations remaining after entering a search variable	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Capacity to select factors the user wishes to avoid in identifying occupational alternatives	yes	yes	yes	yes	yes	yes	no	no	yes	yes	yes	no
Capacity to determine why a particular occupation does not appear on the user's list	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	yes
Capacity to list all rejected occupations	no	yes	yes	yes	no	no	no	no	no	no	no	no
Capacity to list occupations just lost in searching	no	yes	yes	yes	no	no	no	no	no	no	no	no
Capacity to request a summary of search variables	yes	yes	yes	yes	yes	yes	no	no	no	no	yes	no
Capacity to conduct multiple searches in single or multiple files	no	no	no	no	no	no	no	no	yes	yes	no	no
Capacity to deactivate one or more search functions as part of the software configuration process	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Crosswalk available from search to occupational information	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
Obtaining Occupational Information												
Capacity to compare two occupations on one display/printout	no	yes	yes	yes	no	yes	yes	yes	no	no	yes	no
Capacity to access occupational titles alphabetically without inputting code numbers	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Crosswalk available directly from the occupational file to other information files	yes	yes	yes ⁽¹³⁾	yes	yes	yes	no	no	yes	yes	no	no
Capacity to provide a summary of occupational information in addition to detailed categorical information	no	no	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
Multiple sources used to develop occupational information	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GISII	SP	VIS
Cycle for updating of salary & employment outlook data (in months)	12	12	12	12	12	12	12	12	12	12	12	12
Cycle for updating all other occupational information (in months)	12	36	12	12	12	12	36 ⁽¹⁴⁾	36 ⁽¹⁵⁾	24	24	12	36 ⁽¹⁶⁾
Information provided:												
• categorical information	no	no	no	no	yes	no	no	no	no	no	no	no
• Chronicle Brief number	no	no	yes	yes	no	no	no	no	no	no	no	no
• CIP ⁽¹⁷⁾ code	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• DOT number/category	no	yes	yes	yes	yes	no	yes	yes	yes	yes	no	yes
• GOE ⁽¹⁸⁾ number/category	no	yes	yes	yes	yes	yes	no	no	no	no	no	no
• Holland Code/Type	no	no	yes	yes	no	yes	no	no	yes	yes	no	no
• OES ⁽¹⁹⁾ number	no	no	yes	yes	no	yes	no	no	no	no	no	no
• SIC ⁽²⁰⁾ code	no	no	yes	yes	no	yes	no	no	no	no	no	no
• SOC number/fields of work	no	yes	yes	yes	yes	yes	yes	yes	no	yes	no	yes
• Worker-Trait Group	no	no	yes	yes	no	no	no	no	no	no	no	no
• World-of-Work map affiliation	no	no	no	no	no	yes	yes	yes	no	no	no	yes
• USOE clusters	no	yes	no	no	no	no	no	no	yes	yes	no	no
• aptitudes required	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• career ladder	no	yes	no	no	no	yes	yes	yes	yes	yes	no	yes
• definition/description of occupation	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• educational requirements	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• employment outlook	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• fringe benefits	no	yes	no	no	no	yes	no	no	no	no	no	no
• generic skills required in management	no	no	no	no	no	no	no	no	no	no	yes	no
• hiring practices	yes	yes	no	no	no	yes	no	no	no	no	no	no
• interest fields/likes-dislikes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• Military Information												
• alternative job titles	yes	yes	yes ⁽²¹⁾	yes	no	yes	yes	yes	yes	yes	no	yes
• education/training	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no	yes
• employment and promotions	yes	yes	yes	yes	no	yes	no	no	yes	yes	no	no
• general information on size & organization, location, working for the military, economic situation & outlook	yes	yes	no	no	no	yes	no	no	yes	yes	no	no
• hiring practices	yes	no	yes	yes	no	no	no	no	yes	yes	no	no
• job descriptions	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no	yes

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
• military occupational specialties	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no	yes
• physical demands	yes	no	yes	yes	no	yes	no	no	yes	yes	no	no
• pros and cons	no	yes	no	no	no	no	no	no	no	no	no	no
• related civilian titles	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no	yes
• related training	yes	no	yes	yes	no	yes	yes	yes	yes	yes	no	yes
• service branches	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no	yes
• SOC number	no	no	yes	no	no	no	no	no	yes	yes	no	no
• wages/salary	yes	yes	yes	yes	no	no	no	no	no	no	no	no
• where to find more information	no	yes	yes	yes	no	yes	no	no	no	no	no	no
• work setting	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no	yes
• Necessary tools & equipment	yes	no	no	no	yes	yes	yes	yes	yes	yes	no	yes
• other requirements:	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• experience/licensing/certification	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• personal qualities/temperaments												
• personal values (e.g., contribution to society, leadership, prestige level, leisure, independence, variety, etc.)	no	no	no	no	yes	no	no	no	no	no	yes	no
• physical demands	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• pros and cons	no	yes	no	no	yes	no	yes	yes	no	no	yes	yes
• promotion/advancement opportunities	no	yes	no	no	no	yes	yes	yes	yes	yes	yes	yes
• related information	yes	yes	no	no	yes	yes	yes	yes	no	no	yes	yes
• apprenticeship programs	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• educational programs	yes	yes	yes	yes	yes ⁽²²⁾	yes	yes	yes	yes	yes	no	yes
• military occupations	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• occupations/specialties	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• required college courses/programs of study	yes	yes	no	no	yes	yes	yes	yes	yes	yes	yes	yes
• salary												
• average income	no	no	no	no	no	yes	yes	yes	yes	yes	yes	yes
• beginning income	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• range	yes	yes	yes	yes	yes	yes	yes	yes	no	no	yes	yes
• top earning possibilities	yes	no	yes	yes	yes	yes	yes	yes	no	no	yes	yes
• security	no	no	no	no	no	yes	yes	yes	yes	yes	yes	yes
• skills required	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• suggested high school courses	yes	yes	yes	yes	no	yes ⁽²³⁾	no	no	yes	yes	no	no
• training pathways/specific occupational training	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
• typical job titles	yes	yes	no	no	no	yes	no	no	yes	yes	yes	no
• where to find more information	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• work location/where employed	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• work setting/environment/special conditions	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• work tasks/activities	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Capacity to provide state specific information	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no	yes
Number of occupations included	335 ⁽²⁴⁾	761	678	678	700+	341	497	497	489 ⁽²⁵⁾	489 ⁽²⁶⁾	230+ ⁽²⁷⁾	497
Instructions for making an occupational visit	yes	no	no	no	no	no	no	no	no	no	no	no
Provides general information on:												
• entrepreneurship quiz	yes	no	no	no	no	no	no	no	no	no	no	no
• going into business	yes	no	no	no	no	no	no	no	no	no	no	yes
• list of occupations with 5% or more self-employment	yes	no	no	no	no	no	no	no	no	no	no	no
• making a business succeed	yes	no	no	no	no	no	no	no	no	no	no	no
• options	yes	no	no	no	no	no	no	no	no	no	no	no
• rewards and costs	yes	no	no	no	no	no	no	no	no	no	no	no
• self-employment characteristics of entrepreneurs	yes	no	no	no	no	no	no	no	no	no	no	no
• where to go for assistance	yes	no	no	no	no	no	no	no	no	no	no	no
• why businesses fail	yes	no	no	no	no	no	no	no	no	no	no	no
Identifying Educational Alternatives												
Capacity to complete	yes	no	no	no	no	no	no	no	no	no	no	yes
• apprenticeship search	yes ⁽²⁸⁾	yes	yes ⁽²⁹⁾	yes	yes	yes ⁽³⁰⁾	yes	yes	yes ⁽³¹⁾	yes ⁽³²⁾	no	yes
• voc/tech school search	yes ⁽³³⁾	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• two-year college search	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• four-year college search	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• graduate & professional school search	yes	no	no	no	no	no	yes	yes	no	no	no	yes
• external degree program search	no	no	no	no	no	no	no	no	no	no	yes	yes
• tech prep program search	no	yes	no	no	no	no	no	no	no	no	no	yes
• financial aid search	yes	no	yes	yes	yes ⁽³⁴⁾	yes	no	no	yes	yes	no	yes
• military training search	no	no	no	no	no	no	yes	yes	yes	yes	no	yes

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
Capacity to select specific search variables for identifying educational institutions												
• academic calendar	no	no	yes	yes	no	no	yes	yes	yes	yes	yes ⁽³⁵⁾	yes
• activities/special programs	no	yes	yes	yes	no	no	yes	yes	yes	yes	yes	yes
• admissions information	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
• admissions selectivity/competitiveness	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• affiliation/control	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• athletic programs	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• athletic scholarships	no	yes	yes	yes	yes	no	no	no	yes	yes	yes	no
• characteristics of students	no	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes
• community size/type	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
• costs/financial aid	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• day/evening/part-time/full-time programs	no	no	yes	yes	no	no	no	no	yes	yes	yes	no
• degrees offered	yes	yes	yes	yes	no	no	yes	yes	yes	yes	yes	yes
• enrollment/institution size	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• geographic location	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• housing/residence	no	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
• programs of study/majors/fields	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• school regulations	no	yes	no	no	no	no	no	no	no	no	no	no
• student performance	no	yes	no	no	no	no	no	no	no	no	no	no
Capacity to conduct multiple searches in single or multiple files	no	no	no	no	no	no	no	no	yes	yes	no	no
Capacity to evaluate admissions selectivity based on test scores	no	no	yes	yes	no	no	yes	yes	yes	yes	yes ⁽³⁸⁾	yes
Cycle for updating educational information (in months)	12	12	12	12	12	12	12	12	6	6	12	12
Cycle for updating financial aid information (in months)	12	12	12	12	12	12	12	12	12	12	12	12
Obtaining Educational Information												
Capacity to access educational institutions alphabetically without inputting code numbers ⁽³⁹⁾	no	yes	yes	yes	yes	yes	yes	yes	no	no	yes	yes
Crosswalk available directly from the educational file to other information files	no	yes	no	no	no	no	no	no	yes	yes	no	no

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	CJIN	DCA	DHS	GIS17	GIS II	SP	VIS
Capacity to sort institutions/programs of study list by various characteristics	no	yes	no	no	no	yes	yes	yes	no	no	no	yes
Information provided (apprenticeship programs):												
• contact for information	yes	no	no	no	no	yes	no	no	no	no	no	yes
• duties	no	no	no	no	no	yes	no	no	no	no	no	yes ⁽⁴⁰⁾
• general information	yes	no	no	no	no	yes	no	no	no	no	no	yes
• number of appointments	no	no	no	no	no	yes	no	no	no	no	no	no
• programs/sponsors	yes	no	no	no	no	yes	no	no	no	no	no	yes
• regional office information	no	no	no	no	no	yes	no	no	no	no	no	no
• related occupations	yes	no	no	no	no	yes	no	no	no	no	no	yes
• typical admissions questions	yes	no	no	no	no	no	no	no	no	no	no	yes
• work process	yes	no	no	no	no	yes	no	no	no	no	no	yes
Information provided (vocational/technical schools):												
• academic calendar	yes	no	no	no	yes	yes	yes	yes	yes	yes	no	yes
• accreditation	yes	no	yes	yes	no	no	no	no	yes	yes	no	no
• admissions selectivity	yes	yes ⁽⁴¹⁾	no	no	no	yes	no	no	no	no	no	no
• affiliation/control	no	yes	no	no	no	yes	yes	yes	yes	yes	no	yes
• alternative credit options	yes	no	no	no	no	yes	no	no	no	no	no	no
• application deadline	yes	yes	no	no	no	yes	no	no	yes	yes	no	no
• application fee	yes	yes	no	no	yes	yes	no	no	no	no	no	no
• athletic programs/sports	yes	yes	no	no	no	yes	no	no	yes	yes	no	no
• athletic scholarships	yes	yes	no	no	no	yes	no	no	no	no	no	no
• campus activities (non-sports)	yes	yes	no	no	no	yes	no	no	yes	yes	no	no
• community size/type	yes	no	no	no	no	yes	no	no	yes	yes	no	yes
• contact for further information	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no
• costs	yes	yes	no	no	yes	yes	no	no	yes	yes	no	yes
• degree requirements	yes	yes	no	no	no	no	yes	yes	no	no	no	yes
• degrees/certificates offered	yes	yes	no	no	no	no	no	no	yes	yes	no	no
• distance to city center	yes	no	no	no	no	no	no	no	no	no	no	no
• enrollment	yes	yes	no	no	yes	yes	yes	yes	yes	yes	no	yes
• entrance requirements/tests	yes	yes	no	no	yes	yes	no	no	no	no	no	no
• faculty characteristics	no	no	no	no	no	no	no	no	yes	yes	no	no
• financial aid	yes	yes	no	no	yes	yes	no	no	yes	yes	no	no
• foreign study options	yes	no	no	no	no	yes	no	no	no	no	no	no

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
• freshman class characteristics	yes	no	no	no	no	yes	no	no	yes	yes	no	no
• high school units required	no	yes	yes	yes	no	no	no	no	no	no	no	no
• honors courses/program	yes	no	no	no	no	yes	no	no	no	no	no	no
• housing/residence	yes	yes	no	no	yes	yes	no	no	yes	yes	no	no
• institution/school type	yes	yes	no	no	no	yes	yes	yes	yes	yes	no	yes
• military training opportunities	no	yes	no	no	no	yes	no	no	no	no	no	no
• part-time degree programs	yes	no	no	no	no	no	no	no	no	no	no	no
• programs of study/majors	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no	yes
• special programs/student services	yes	yes	no	no	yes	yes	no	no	yes	yes	no	no
• student body characteristics	yes	yes	no	no	yes	yes	yes	yes	yes	yes	no	yes
• student regulations	no	yes	no	no	no	no	no	no	no	no	no	no
Information provided (2 and 4 year college.):												
• academic calendar	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• accreditation	yes	no	yes	yes	no	no	yes	yes	yes	yes	no	no
• admissions selectivity	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• affiliation/control	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• alternative credit options	yes	no	yes	yes	no	yes	yes	yes	yes	yes	yes	no
• application deadline	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• application fee	yes	yes	yes	yes	yes	yes	no	no	no	no	no	no
• athletic programs/sports	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• athletic scholarships	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• campus activities (non-sports)	yes	no	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
• community size/type	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• contact for further information	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• costs	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• degree requirements	yes	no	no	no	no	no	no	no	no	no	no	no
• degrees/certificates offered	yes	yes	yes	yes	yes	no	yes	yes	yes	yes	no	yes
• distance to city center	no	no	no	no	no	no	no	no	no	no	no	no
• employment follow-up data by major	no	no	no	no	no	no	no	no	no	no	no	no
• enrollment	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• entrance requirements/tests	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• faculty characteristics	no	no	no	no	no	no	no	no	yes	yes	no	no
• financial aid	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• foreign study options	yes	no	yes	yes	no	yes	yes	yes	yes	yes	yes	yes

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
• freshman class characteristics	yes	no	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
• high school credits/units required	no	yes	yes	yes	yes	no	yes	yes	no	no	no	yes
• honors courses/program	yes	no	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
• housing/residence	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• institution/school type	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• military training opportunities	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• part-time degree programs	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• programs of study/majors	yes	no	no	no	no	yes	no	no	yes	yes	no	no
• special programs/student services	yes	yes	yes	yes	yes	yes	yes	yes	yes ⁽⁴²⁾	yes	yes	yes
• student body characteristics	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• student regulations	no	yes	no	no	yes	no	no	no	no	no	no	no
Information provided (graduate schools):												
• academic calendar	yes	no	no	no	no	no	yes	yes	yes	yes	yes ⁽⁴³⁾	no
• accreditation	yes	no	yes	yes	no	no	no	no	yes	yes	yes	no
• admissions selectivity	yes	no	no	no	no	no	no	no	yes	yes	no	no
• affiliation/control	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• alternative credit options	yes	no	no	no	no	no	yes	yes	yes	yes	no	no
• application deadline	yes	no	yes	yes	no	no	no	no	yes	yes	yes	no
• application fee	yes	no	no	no	no	no	no	no	no	no	yes	no
• athletic programs/sports	yes	no	no	no	no	no	no	no	yes	yes	no	no
• athletic scholarships	yes	no	no	no	no	no	no	no	yes	yes	no	no
• campus activities (non-sports)	yes	no	no	no	no	no	no	no	yes	yes	no	no
• community size/type	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• contact for further information	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• costs	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• degree requirements	yes	no	no	no	no	no	yes	yes	no	no	yes	no
• degrees offered	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• distance to city center	no	no	no	no	no	no	no	no	no	no	no	no
• enrollment	yes	no	no	no	no	no	yes	yes	yes	yes	yes	no
• entrance requirements/tests	yes	no	yes	yes	no	no	yes	yes	yes	yes	no	no
• faculty characteristics	no	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• financial aid	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• foreign study options	yes	no	no	no	no	no	no	no	yes	yes	no	no
• housing/residence	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
• institution/school type	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• job placement statistics	no	no	no	no	no	no	yes	yes	yes	yes	no	no
• military training opportunities	yes	no	no	no	no	no	no	no	yes	yes	no	no
• part-time degree programs	no	no	no	no	no	no	no	no	yes	yes	yes	no
• programs of study/majors	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• special programs/student services	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
• starting salary of graduates	no	no	no	no	no	no	no	no	yes	yes	no	no
• student body characteristics	yes	no	no	no	no	no	yes	yes	yes	yes	yes	no
Information provided (external degree programs):												
• accreditation	no	no	no	no	no	no	yes	yes	no	no	no	yes
• alternative credit options	no	no	no	no	no	no	yes	yes	no	no	no	yes
• contact for further information	no	no	no	no	no	no	yes	yes	no	no	no	yes
• costs	no	no	no	no	no	no	yes	yes	no	no	no	yes
• degrees/certificates offered	no	no	no	no	no	no	yes	yes	no	no	no	yes
• enrollment	no	no	no	no	no	no	yes	yes	no	no	no	yes
• entrance requirements/tests	no	no	no	no	no	no	yes	yes	no	no	no	yes
• programs of study/majors	no	no	no	no	no	no	yes	yes	no	no	no	yes
• special programs/student services	no	no	no	no	no	no	yes	yes	no	no	no	yes
Application/financial aid request letter generator	no	no	yes	yes	yes	yes	no	no	no	no	no	no
Assessment of financial aid need ⁽⁴⁴⁾	no	no	no	no	no	no	yes	yes	no	no	no	no
General information provided on financial aid												
• application materials	yes	no	yes	yes	no	yes ⁽⁴⁵⁾	no	no	no	no	no	no
• books about financial aid	yes	no	no	no	no	yes	no	no	no	no	no	no
• glossary of financial aid terms	yes	no	no	no	yes	yes	no	no	no	no	no	no
• sources of financial aid												
• aid for military personnel/dependents	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• grants	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• loans	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• private & special programs	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	no	yes
• work programs	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• steps for getting financial aid	yes	no	yes	yes	yes	yes	no	no	no	no	no	no

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
Capacity to plan a high school curriculum on the basis of educational & career goals	yes ⁽⁴⁶⁾	no	yes	yes	no	no	no	no	no	no	no	no
Capacity to compare 2 or more schools on one screen	yes	yes	no	no	no	yes	no	no	no	no	no	no
Overview of nontraditional approaches to education	no	no	no	no	no	no	yes	yes	no	no	yes	yes
General descriptions of programs of study	yes	yes	no	no	yes	yes	yes	yes	yes	yes	yes	yes
Typical generic curriculum (listing of courses)	no	no	yes ⁽⁴⁷⁾	yes	no	yes	no	no	no	no	yes	no
Description of work tasks to encourage learning by doing	no	no	no	no	no	no	no	no	no	no	yes	no
User estimation of chances of successfully completing a preparation program	no	no	no	no	no	no	no	no	no	no	yes	no
Development of an educational action plan	no	no	no	no	no	no	yes	yes	no	no	yes	no
Number of specific educational & training institutions described	3600 ⁽⁴⁸⁾	1541	5716	5716	7500+	3200+	6750	6750	14657	14657	800+ ⁽⁴⁹⁾	5191
Number of specific financial aid programs/sources described ⁽⁵⁰⁾	1000 ⁽⁵¹⁾	520	1506	1506	1370+	14K ⁽⁵²⁾	24	24	700+ ⁽⁵³⁾	700+	7	49
Coping With Adult Transitions												
Understanding adult transitions	no	no	no	no	no	no	yes	no	no	no	no	no
Understanding life-career roles	no	no	no	no	no	no	yes	no	no	no	no	no
General information on:												
• calculating preparation costs	no	no	no	no	no	no	no	no	no	no	yes	no
• care for adults	no	no	no	no	no	no	no	no	no	no	yes	no
• child care	no	no	no	no	no	no	no	no	no	no	yes	no
• credit for military training	no	no	no	no	no	no	yes	yes	no	no	yes	yes
• credit for prior learning	no	no	no	no	no	no	yes	yes	no	no	yes	yes
• credit via examination	no	no	no	no	no	no	yes	yes	no	no	yes	yes
• internship/co-op placement	no	no	no	no	no	no	no	no	no	no	yes	no
• financial aid	no	no	no	no	no	no	no	no	no	no	yes	no
• finding accredited home-study courses	yes	no	no	no	no	yes	yes	yes	no	no	yes	yes
• time management	no	no	no	no	no	no	yes	yes	no	no	yes	no
Capacity to analyze work history by DOT number in terms of ⁽⁵⁴⁾	no	no	no	yes	no	no	no	no	no	no	no	no
• aptitudes												

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
• crosswalks (CIP, DOT, GOE, OES, SIC)	yes	no	no	yes	no	no	no	no	no	no	no	no
• earnings	no	no	no	yes	no	no	no	no	no	no	no	no
• educational level	no	no	no	yes	no	no	no	no	no	no	no	no
• employment outlook	no	no	no	yes	no	no	no	no	no	no	no	no
• Holland types	no	no	no	yes	no	no	no	no	no	no	no	no
• hours and travel	no	no	no	yes	no	no	no	no	no	no	no	no
• interests	no	no	no	yes	no	no	no	no	no	no	no	no
• physical demands	no	no	no	yes	no	no	no	no	no	no	no	no
• primary physical activity	no	no	no	yes	no	no	no	no	no	no	no	no
• SOC fields of work	no	no	no	yes	no	no	no	no	no	no	no	no
• temperaments	no	no	no	yes	no	no	no	no	no	no	no	no
• worksite/environment	no	no	no	yes	no	no	no	no	no	no	no	no
Capacity for a counselor to input specific comments into a user's printout	no	no	yes	yes	no	no	no	no	no	no	no	no
Decision Making												
On-line description of a career decision-making model	no	no	no	no	no	no	yes	yes	no	no	yes	no
Integration of summary data from all other system modules into the decision-making module	no	no	no	no	no	no	no	no	no	no	yes	no
Integration of 3 occupational alternatives into a decision-making matrix that balances potential rewards & chances of successfully completing preparation requirements, for the purpose of identifying a tentative choice	no	no	no	no	no	no	no	no	no	no	yes	no
Feedback to the user regarding the characteristics of her or his tentative choice based on a decision-making matrix	no	no	no	no	no	no	no	no	no	no	yes	no
Employment Planning												
General information on:												
• books to help in the job search	yes	no	no	no	no	no	no	no	no	no	no	no
• building a network of contacts	yes	no	no	no	no	no	yes	yes	no	no	yes	yes

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
• demonstrating job skills or job search skills	no	no	no	no	no	no	yes	yes	no	no	yes	yes
• employee benefits	yes	no	no	no	no	no	no	no	no	no	no	no
• employer expectations	yes	no	no	no	no	no	no	no	no	no	no	no
• employment advertisements	no	no	no	no	no	no	yes	yes	no	no	no	yes
• employment laws & regulations	yes	no	no	no	no	no	no	no	no	no	no	no
• entrepreneurship/start your own business	yes	no	no	no	no	no	yes	yes	no	no	no	yes
• how to research firms & jobs	yes	no	no	no	no	no	no	no	no	no	no	no
• job applications	yes	no	no	no	no	no	yes	yes	no	no	no	yes
• job interviewing	yes	no	no	no	no	no	yes	yes	no	no	no	yes
• letter writing	yes	no	no	no	no	no	yes	yes	no	no	no	yes
• placement agencies	no	no	no	no	no	no	yes	yes	no	no	no	yes
• planning/implementing a job search	yes	no	no	no	no	no	yes	yes	no	no	no	yes
• resume writing	yes	no	no	no	no	no	yes	yes	no	no	yes	yes
• support services for job seekers	yes	no	no	no	no	no	no	no	no	no	no	no
• use of Myers-Briggs Type Indicator for employment planning	no	no	no	no	no	no	yes	yes	no	no	no	no
• work-related family issues	yes	no	no	no	no	no	no	no	no	no	no	no
Cover letter practice exercise	no	no	no	no	no	no	yes	yes	no	no	no	yes
Identifying options for developing new skills	no	no	no	no	no	no	no	no	no	no	yes	no
Identifying next steps in achieving career goals	no	no	no	no	no	no	no	no	no	no	yes	no
Overview of how to prepare & skills required for specific occupations	no	no	no	no	no	no	yes	yes	no	no	yes	yes
Writing a resume draft	no	no	no	no	no	no	yes	yes	no	no	no	yes
User Exit												
Report/review of all system modules												
• current session	no	no	yes ⁽⁵⁵⁾	yes	no	no	yes	yes	no	no	yes	no
• sessions completed to date	no	no	yes	yes	no	no	yes	yes	no	no	yes	no
Identifying occupations to be maintained in the user	no	no	yes	yes	yes	no	yes	yes	no	no	no	no
Completing a brief on-line anonymous evaluation questionnaire (optional)	no	no	no	no	no	no	yes	yes	no	no	yes	yes

Table 1: Comparison of System Content

System Content	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GIS II	SP	VIS
Local Data Option												
Capacity to integrate local data into the system	yes	no	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
Capacity to customize introductory display following sign-on	yes	no	yes	yes	no	yes	yes	yes	yes	no	no	no
Capacity to customize exit display	yes	no	yes	yes	no	yes	yes	yes	no	no	yes	no

Table 1: Comparison of System Content

Note: (1) Some CACG system content features are easy to identify, while other system content features are embedded within other features and are more difficult to locate. Software developers can provide information about locating specific system content features that are not readily apparent.

CACG abbreviations include:

CIS = Career Information System (University of Oregon, 1993) Operating in 13 states & 1 city with localized information. Specific information included may vary from state to state; CH = Choices (Careerware-ISM Systems Corporation, 1993); CHCT = Choices CT[for Adults in Career Transitions (Careerware-ISM Systems Corporation, 1993)]; CLECT = MODULAR CLECT (Chronicle Guidance Publications, 1993); COIN = COIN (COIN Educational Products, 1993); CV = Career Visions (University of Wisconsin-Madison, 1994); DCA = DISCOVER for Colleges and Adults, (American College Testing Program, 1993). A very similar version, DISCOVER for Colleges and Adults (Special Version), is also available. Differences between these versions include lower reading level, reduced number of user characteristic categories required for "guidance approach" sign-on, localization options for sign-on process, and elimination of counselor reports that require personal data; DHS = DISCOVER for High Schools (American College Testing Program, 1993); GIS 17 = Guidance Information System Version 17 (Riverside Publishing Company, 1993); GIS II = Guidance Information System II (Riverside Publishing Company, 1993); SP = SIGI PLUS (Educational Testing Service, 1993); and VIS = VISIONS PLUS (American College Testing Program, 1993).

Note: (2) Only available within the tutorial.

Note: (3) With DISCOVER for Colleges and Adults and DISCOVER for High Schools, recommended pathway is optional with module one.

Note: (4) For "Direct" and "Search" only.

Note: (5) Simulation-based.

Note: (6) Potentially reduces the amount of time the user spends at the computer.

Note: (7) The user may complete a computer-administered version of a standardized paper-and-pencil instrument.

Note: (8) The user may complete a paper-and-pencil administration of a standardized instrument prior to computer use.

Note: (9) Capacity to search on 6 employment outlook characteristics for each of the 50 states.

Note: (10) Capacity to search on 6 employment outlook characteristics for each of the 50 states.

Note: (11) GOE = Guide to Occupational Exploration

Note: (12) Also provides search by tech prep cluster

Note: (13) Crosswalk available between subfiles but not between occupational and educational files.

Table 1: Comparison of System Content

- Note:** (14) One-third of all occupations are updated each year.
- Note:** (15) One-third of all occupations are updated each year.
- Note:** (16) One-third of all occupations are updated each year.
- Note:** (17) CIP = Classification of Instructional Programs
- Note:** (18) GOE = Guide for Occupational Exploration
- Note:** (19) OES = Occupational Employment Statistics
- Note:** (20) SIC = Standard Industrial Classification
- Note:** (21) Military information available only for those occupations identified as military occupations.
- Note:** (22) With the input of ASVAB scores, a military career page number is also supplied.
- Note:** (23) High school subjects can be related to occupations.
- Note:** (24) Base number - the total number of occupations will vary depending on the particular state.
- Note:** (25) 1000+ specialized DOT occupational descriptions
- Note:** (26) 1000+ specialized DOT occupational descriptions
- Note:** (27) Also includes more than 550 job titles and alternatives
- Note:** (28) Generally includes in-state schools only.
- Note:** (29) For Choices and Choices CT, public and private school search distinctions are possible for all institution types.
- Note:** (30) Separate school search information available depending on major.
- Note:** (31) For each of the 50 states
- Note:** (32) For each of the 50 states.

Table 1: Comparison of System Content

- Note:** (33) Generally includes in-state schools only.
- Note:** (34) Available with the optional CASHE system.
- Note:** (35) Indicates feature available on College Explorer and/or Graduate School Selector.
- Note:** (36) Includes special program search for students with varying disabilities.
- Note:** (37) Includes special program search for students with varying disabilities.
- Note:** (38) College Explorer only.
- Note:** (39) The validity of educational and financial aid information is dependent upon institutional self-report. Therefore, accuracy and currency of the information varies among institutions and systems.
- Note:** (40) Information provided is for Maryland schools only.
- Note:** (41) Upper Midwest region data only.
- Note:** (42) For GIS17 and GIS II, includes special program search for students with varying disabilities.
- Note:** (43) Optional Graduate school selector only.
- Note:** (44) For DCA and DHS, completion of forms prior to computer use is required.
- Note:** (45) Financial aid information is optional with the CASHE system.
- Note:** (46) Optional High School Planner for states to purchase, requires local data entry.
- Note:** (47) For Choices and Choices CT, it is a generic high school curriculum, not college.
- Note:** (48) Includes 2 and 4 year information. Additional information provided by state computer-based CIDS.
- Note:** (49) College Explorer and Graduate School Selector
- Note:** (50) Developers define financial aid information in a variety of ways, resulting in considerable variability in the number of financial aid sources reported.

Table 1: Comparison of System Content

Note: (51) Additional information provided by state computer-based CIDS.

Note: (52) 14000+ with optional financial aid files.

Note: (53) Additional financial aid information is available from GIS at an extra cost.

Note: (54) Data used as input for occupational exploration.

Note: (55) The printed summary is optional.

Table 2: Comparison of User Friendly Features

User Friendly Features	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GISII	SP	VIS
Full spectrum color scheme video displays ⁽¹⁾	yes ⁽²⁾	yes	yes ⁽³⁾	yes ⁽⁴⁾	no	yes	yes	yes	no	yes	yes	no
Analogous color scheme video displays	no	no	yes	yes	no	yes	yes	yes	no	no	no	yes
System content color-coded ⁽⁵⁾	no	no	no	no	no	yes	no	no	no	no	yes	no
Multi-colored graphic-enhanced screen displays												
• entry screen graphics	no	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	yes
• main program	no	yes	yes	yes	no	yes	yes	yes	no	yes	yes	yes
• menus/program manager	no	yes	yes	yes	no	yes	yes	yes	no	yes	yes	yes
Upper/lower case characters	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Operates in a windows-like environment	no	yes	no	no	no	no	no	no	yes ⁽⁶⁾	yes	no	no
Special purpose function/alt keys/buttons												
• back-up function	yes	yes	Esc ⁽⁷⁾	Esc	yes	yes	yes	yes	yes	yes	yes	yes
• locate position in the system	no	no	no	no	no	no	yes	yes	yes	yes	no	yes
• previous item back-up (on-line assessment instruments only)	yes	no	no	no	yes	no	yes	yes	yes	yes	no	yes
• print screen	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes
• quick exit	no	yes	Esc	Esc	no	yes	yes	yes	yes	yes	yes	yes
• repeat instructions/help	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Orientation to function keys/buttons	no	no	yes	yes	no	no	yes	yes	no	no	yes	yes
Menu driven screen sequencing	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Screen indicates system location	no	yes	yes	yes	no	yes	no	no	yes	yes	no	no
Main menu/module menu indicates completed components	no	yes	no	no	no	no	yes	yes	no	no	no	no
Preliminary operating instructions	yes	no	yes	yes	yes	no	yes	yes	yes	yes ⁽⁸⁾	yes	yes
Explicit recommended pathway for use of system based on user characteristics	no	no	no	no	no	no	yes	yes	no	no	yes	no
Staff quick access to system content	no	no	yes	yes	no	no	yes	yes	no	no	yes	yes
Introductory instructions omitted for experienced users	no	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
Purpose of each component/module explained	no	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no
Name added to printouts	yes	yes	yes	yes	yes	yes	no	no	yes	yes ⁽⁹⁾	yes	yes
Date added to printouts	no	no	yes	yes	no	yes	no	no	yes	yes	yes	yes

Table 2: Comparison of User Friendly Features

User Friendly Features	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS17	GISII	SP	VIS
Availability of optional detailed information (layering, e.g., expanded definitions of terms)	no	yes	no	no	no	yes	no	no	yes	yes	yes	no
Summary screen display/printout												
• for each component/module	yes ⁽¹⁰⁾	no	yes	yes	yes	no	yes	yes	yes ⁽¹¹⁾	yes ⁽¹²⁾	yes	no
• for each completed session or to date	no	no	yes	yes	no	no	yes	yes	no	no	yes	no
User memory record (system capability to store user data between sessions)	no	yes	yes	yes	yes	no	yes	yes	no	no	yes	no
User data maintenance capabilities												
• user data delete option	no	no	yes	yes	yes	no	yes	yes	no	no	yes	no
• password protection for user data ⁽¹³⁾	no	yes	yes	yes	yes	no	yes	yes	no	no	yes	no
Data collection for accountability & research												
• data on system use												
• aggregate	yes	no	yes	yes	yes	no	yes	yes	yes	yes	yes	yes
• individual	no	no	no	no	yes	no	yes	yes	no	no	no	no
• demographic data												
• aggregate	no	no	no	no	no	no	yes	yes	no	no	yes	yes
• individual	no	no	no	no	yes	no	yes	yes	no	no	no	no
• user satisfaction data	no	no	no	no	no	no	yes	yes	no	no	yes	yes
Integration of user data from one component/module into another component/module	no	yes	yes	yes	no	yes	yes	yes	no	no	yes	no
Mainframe version available	yes	no	no	no	no	yes	no	no	yes	no	no	no
Macintosh version available	no	yes	yes	yes	no	yes	no	no	no	yes	no	no
Apple II version available	no	no	no	no	no	no	no	no	yes	no	no	no
CD-ROM version available	no	yes	no	no	no	yes	no	no	no	no	no	no

Table 2: Comparison of User Friendly Features

- Note:** (1) Assumes United States software versions on IBM compatible microcomputers unless otherwise noted. Response time after data input varies among computers depending on type of processor, clock speed, memory available, hard disk access speed, and local area network capabilities. Video display (monitor) screen resolution (sharpness) varies with different monitors and interfaces, with Super VGA, VGA, and EGA formats providing better resolution than CGA formats.
- Note:** (2) Limited to a blue background for all displays and green headings for selected displays.
- Note:** (3) For Choices and Choices CT, only the Career Area Interest Checklist is a full spectrum color scheme video display.
- Note:** (4) Transferable Skills module only
- Note:** (5) Color coding of instruction/error messages and display backgrounds to match system content.
- Note:** (6) Mouse driven or keyboard driven input.
- Note:** (7) Esc = Escape (Esc) key provides this function.
- Note:** (8) Optional
- Note:** (9) Also automatically prints organizational addresses when requested.
- Note:** (10) Summary provided only following completion of Quest, School Sort, and Assessment Link.
- Note:** (11) Summary provided only following completion of Harrington-O'Shea CDM.
- Note:** (12) Summary provided only following completion of Harrington-O'Shea CDM.
- Note:** (13) Uses private number or social security number in place of password (CLECT, DISCOVER for Colleges and Adults, DISCOVER for High Schools, and SIGI PLUS).

Table 3: Comparison of Support Materials and Services Available from Developers

Support Materials & Services	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS 17	GIS II	SP	VIS
Support Materials for Users												
Nonconsumable materials												
• user guide/handbook	no	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes
• lists of occupations ⁽¹⁾												
• alphabetical	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
• apprenticed occupations	no	yes	no	no	no	no	no	no	no	no	no	no
• career fields/occupational groups	yes	no	no	no	no	yes	yes	yes	no	no	no	no
• DOT numbers	no	no	no	no	no	no	no	no	yes	yes	no	no
• high tech occupations	no	no	no	no	no	no	no	no	no	no	no	yes
• military titles	yes	yes	yes	yes	no	no	yes	yes	yes	yes	no	yes
• SOC - fields of work	no	yes	yes	yes	no	no	no	no	no	no	no	no
• USOE clusters	no	no	no	no	no	no	no	no	yes	yes	no	no
• worker-trait groups (GOE)	no	no	yes	yes	no	no	no	no	no	no	no	no
• lists of institutions												
• combined list of all levels	yes	yes	yes	yes	no	yes	no	no	no	no	no	no
• combined list by region/state	yes	yes	yes	yes	no	no	no	no	no	no	no	no
• vocational/technical schools	yes	yes	no	no	no	no	yes	yes	yes	yes	no	yes
• two-year colleges	yes	yes	no	no	no	no	yes	yes	yes	yes	no	yes
• four-year colleges	yes	yes	no	no	no	no	yes	yes	yes	yes	no	yes
• graduate schools	yes	no	no	no	no	no	yes	yes	yes	yes	no	no
• external degree schools	no	no	no	no	no	no	yes	yes	no	no	no	yes
• lists of programs												
• apprenticeship programs	no	yes	no	no	no	no	no	no	no	no	no	yes
• CIP code	no	yes	no	no	no	no	no	no	no	no	no	no
• combined list of all levels	yes	yes	yes	yes	no	no	no	no	no	no	yes	no
• external degree programs	no	no	no	no	no	no	no	no	no	no	no	yes
• military programs	no	no	yes	yes	no	no	yes	yes	no	no	no	yes
• vocational/technical programs	no	yes	no	no	yes	no	yes	yes	yes	yes	no	yes
• list of financial aid sources	yes	no	no	no	yes	no	yes	yes	yes	yes	no	yes
• working for yourself	yes	no	no	no	no	no	no	no	no	no	no	no
• poster - quick reference for system operation	yes	no	no	no	no	yes	yes	yes	yes	yes	no	no
• poster - World-of-Work map	no	no	no	no	no	no	yes	yes	no	no	no	yes

Table 3: Comparison of Support Materials and Services Available from Developers

Support Materials & Services	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS 17	GIS II	SP	VIS
• poster - life-career rainbow	no	no	no	no	no	no	yes	no	no	no	no	no
• quick reference card for system operation	no	no	no	no	no	no	no	no	yes	yes	no	no
• quick reference card for function keys	no	no	yes	yes	no	no	yes	yes	no	no	yes	yes
Consumable materials												
• user guide/handbook	yes	no	yes	yes	no	no	yes	yes	no	no	yes	yes
• Harrington-O'Shea CDM interpretive folder	no	no	no	no	no	no	no	no	yes	yes	no	no
• printout checklist	no	no	no	no	no	no	no	no	no	no	yes	no
• post-system use guide	no	no	no	no	no	no	no	no	no	no	yes	no
• temperament survey	no	no	no	no	yes	no	no	no	no	no	no	no
• workbook	no	no	yes	yes	no	no	yes	yes	no	no	yes ⁽²⁾	yes
Support Materials for Institutions												
Bibliography												
Supplemental information resources	yes	no	yes	yes	no	no	yes	yes	no	no	yes	yes
System design/use references	yes	no	yes	yes	no	no	yes	yes	no	no	yes	yes
Manual												
Publication date ⁽³⁾	1992	1994	1993	1993	1993	1993	1993	1993	1993	1993	1993	1993
Professional/paraprofessional												
• administrative/research reports	no	no	yes	yes	yes	no	yes	yes	no	no	yes	yes
• case study examples	no	no	yes	yes	no	no	no	no	no	no	yes	no
• overhead transparency/handout												
masters for training	yes	no	yes	yes	no	no	no	no	no	no	no	no
• counseling process	yes	no	yes	yes	no	no	yes	yes	no	no	yes	yes
• crosswalk documents/tables	yes	yes	yes	yes	no	no	no	no	no	no	no	no
• database/development procedures												
• educational information sources	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	yes
• financial aid sources	yes	no	no	no	no	no	yes	yes	yes	yes	no	yes
• occupational information sources	yes	no	yes	yes	no	no	yes	yes	yes	yes	yes	yes
• important phone numbers	yes	no	yes	yes	yes	yes	yes	yes	no	no	yes	yes

Table 3: Comparison of Support Materials and Services Available from Developers

Support Materials & Services	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS 17	GIS II	SP	VIS
• instructions for use with special populations	yes	no	yes	yes	no	no	no	no	no	no	no	no
• license agreement	no	no	no	no	yes	no	yes	yes	no	no	no	yes
• recommendations for integrating the software into service delivery												
• counselor attitudes	yes	no	yes	yes	no	no	yes	yes	no	no	yes	no
• pre-system use client preparation	yes	no	yes	yes	yes	no	yes	yes	no	no	yes	no
• post-system use intervention	no	no	yes	yes	no	no	no	no	no	no	yes	no
• materials for curriculum integration	yes	no	yes	yes	no	no	yes	yes	yes	yes	no	no
• sample activities	yes	no	yes	yes	no	no	yes	yes	no	no	no	yes
• sample service delivery forms	yes	no	yes	yes	no	no	yes	yes	no	no	yes	yes
• standards for system use	yes	no	yes	yes	yes	no	yes	yes	no	no	no	no
• statement of system relationship to NOICC standards	no	no	yes	yes	yes	no	no	no	no	no	no	no
• system design process	yes	no	yes	yes	yes	no	no	no	no	no	yes	no
• system overview												
• component/module overview	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• overview of pathways/routes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	yes	yes
• system/feature updates	no	no	yes	yes	no	yes	yes	yes	no	no	yes	yes
• theoretical basis for system design/use	no	no	yes	yes	yes	no	yes	yes	no	no	yes	yes
• training by component/module	yes	no	yes	yes	yes	no	yes	yes	no	no	yes	no
• use of system-related assessment inventories	yes	no	yes	yes	yes	no	yes	yes	no	no	yes	no
• user characteristics for counselor awareness	yes	no	yes	yes	no	no	no	no	no	no	yes	no
• user needs and system use options	yes	yes	yes	yes	no	no	yes	yes	no	no	yes	yes
• using printouts in counseling	yes	no	yes	yes	no	no	no	no	no	no	yes	no
Site administrator												
• choosing the best location	yes	no	yes	yes	no	no	yes	yes	no	no	no	yes
• scheduling	no	no	yes	yes	no	no	no	no	no	no	no	no
• selecting/training direct service providers	yes	no	yes	yes	no	no	no	no	no	no	no	no

Table 3: Comparison of Support Materials and Services Available from Developers

Support Materials & Services	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS 17	GIS II	SP	VIS
• system implementation/integration processes	yes	no	yes	yes	no	no	yes	yes	no	no	no	yes
• system promotion to staff	yes	no	yes	yes	no	no	yes	yes	no	no	no	no
Technical												
• installation instructions	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• localization instructions	yes	no	yes	yes	no	yes	yes	yes	no	no	yes	no
• operating instructions	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
• procedures for demonstration	no	no	yes	yes	no	no	no	no	no	no	no	no
• technical service request procedures	yes	no	no	no	yes	no	yes	yes	no	no	yes	yes
• trouble shooting	yes	yes	yes	yes	yes	no	no	no	yes	yes	yes	no
Newsletter												
Information/updates	no	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
Research & development	no	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
Videotape												
Publication date	no	no	1992	1992	no	no	1990 ⁽⁴⁾	1990	1991	1993	1992	no
Assessment inventories	no	no	no	no	no	no	yes	yes	no	no	no	no
Career stages/development	no	no	yes	yes	no	no	no	no	no	no	no	no
Content overview	no	no	yes ⁽⁵⁾	yes	no	no	yes	yes	yes	yes	yes	no
Counseling scenarios	no	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
Counselor training	no	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
Daily operating procedures	no	no	yes	yes	no	no	yes	yes	no	no	no	no
Database/development procedures												
• information update cycle	no	no	yes	yes	no	no	no	no	yes	yes	no	no
• educational information sources	no	no	yes	yes	no	no	no	no	no	no	no	no
• financial aid sources	no	no	yes	yes	no	no	no	no	no	no	no	no
• occupational information sources	no	no	yes	yes	no	no	no	no	no	no	no	no
Demonstration of installation procedures	no	no	no	no	no	no	yes	yes	no	no	no	no
Integrating of software into counseling services	no	no	yes	yes	no	no	yes	yes	yes	yes	yes	no
Localization procedures	no	no	yes	yes	no	no	yes	yes	no	no	no	no
Potential settings for system use	no	no	yes	yes	no	no	yes	yes	no	no	no	no

Table 3: Comparison of Support Materials and Services Available from Developers

Support Materials & Services	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS 17	GIS II	SP	VIS
Review of support materials/guides	no	no	yes	yes	no	no	no	no	no	yes	no	no
Simulated computer screens used for system demonstration	no	no	yes	yes	no	no	yes	yes	no	yes	yes	no
System promotion for staff/potential users	no	no	yes	yes	no	no	no	no	no	yes	no	no
Technical support number	no	no	yes	yes	no	no	yes	yes	yes	yes	no	no
Theoretical basis of software	no	no	yes	yes	no	no	yes	yes	no	no	yes	no
Using counselor/administrative reports	no	no	yes	yes	no	no	yes	yes	no	no	no	no
Demonstration Resources												
Demonstration disk or demonstration video for software evaluation and/or public relations	yes	no	yes	yes	no	yes	yes	yes	yes	yes	yes	no
Counselor/Administrator Reports												
Identification of users	no	no	yes	yes	yes	no	yes	yes	no	no	no	no
User characteristics	no	no	yes	yes	no	no	yes	yes	no	no	yes	no
Use of system components	yes	no	yes	yes	yes	no	yes	yes	yes	yes	yes	yes
User evaluation of the system	no	no	no	no	no	no	yes	yes	no	no	yes	yes
Total profile of system use by component/module	yes	no	yes	yes	yes	no	yes	yes	no	no	yes	no
Technical Support for Institutions												
By phone	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Training from the Developer												
On-site training	yes ⁽⁶⁾	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes
National/regional/state conferences	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes

Table 3: Comparison of Support Materials and Services Available from Developers

Note: (1) Features receiving a "yes" for Choices and Choices CT can be printed from the on-line version of the professional manual. A printed version is available upon request.

Note: (2) College Explorer only.

Note: (3) Dates may indicate supplemental revisions as opposed to complete manual revision.

Note: (4) 1990 video deals with DISCOVER content screen by screen; 1988 video- Installation and Operation; 1986 video- Theoretical Basis for Modules and System Features receiving a "yes" in this category vary among the three videos. Please check with developers.

Note: (5) For Choices and Choices CT videotape, content overview is color-coded to differentiate IBM and Macintosh computer systems.

Note: (6) Training varies by state

Table 4: Comparison of Costs

Feature	CIS	CV	CH	CHCT	CLECT	COIN	DCA	DHS	GIS 17	GIS II	SP	VIS
Software License (1 year) System ⁽¹⁾	850 ⁽²⁾	1000 ⁽³⁾	1150 ⁽⁴⁾	1350 ⁽⁵⁾	900 ⁽⁶⁾	995 ⁽⁷⁾	1850 ⁽⁸⁾	1850 ⁽⁹⁾	1095 ⁽¹⁰⁾	1095 ⁽¹¹⁾	1475 ⁽¹²⁾	450 ⁽¹³⁾
Support Materials Consumable (assumes 500 users per year) ⁽¹⁴⁾												
• user guide	nc ⁽¹⁵⁾	na ⁽¹⁶⁾	355 ⁽¹⁷⁾	355 ⁽¹⁸⁾	nc	nc	na	na	na	na	nc	na
• Harrington-O'Shea CDM	na	na	na	na	na	na	na	na	759 ⁽¹⁹⁾	759 ⁽²⁰⁾	na	na
• temperament survey	na	na	na	na	372 ⁽²¹⁾	na	na	na	na	na	na	na
Technical Support	800#	800#	800#	800#	800#	800#	800#	800#	800#	800#	800#	800#
Training from the Developer												
National/regional conference/workshop registration fee ⁽²²⁾	nc	nc	nc	nc	na	nc	nc	nc	nc	nc		\$25 nc
SUB-TOTAL COSTS												
One year software license	\$850	\$1,000	\$1,150	\$1,350	\$900	\$995	\$1,850	\$1,850	\$1,095	\$1,095	\$1,475	\$450
Optional costs without constants												
• support materials ⁽²³⁾	\$0	\$0	\$355	\$355	\$350	\$0	\$0	\$0	\$759	\$759	\$0	\$0
• conference registration fees ⁽²⁴⁾	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25	\$0
subtotal	\$0	\$0	\$355	\$355	\$350	\$0	\$0	\$0	\$759	\$759	\$25	\$0
TOTAL COSTS	\$850	\$1,000	\$1,505	\$1,705	\$1,250	\$995	\$1,850	\$1,850	\$1,854	\$1,854	\$1,500	\$450

Table 4: Comparison of Costs

Note: (1) Some costs are constant across all systems, such as hardware and hardware maintenance; supplemental career information resources; supplies (paper & printer supplies); facilities (physical renovation and computer furniture, if necessary); staff time necessary for developing and inputting local occupational, educational and service delivery information, and developing organization-specific support materials; and conference travel expenses related to staff training. Appropriate constant costs should be included in any calculation of total CACG expenses for an organization. Only features where costs apply are included in this table. Refer to Table 3 for a complete listing of all support materials and services that are available from the developers.

Note: (2) Average estimated cost per site for CIS states. This excludes the cost of the optional High School Curriculum Planner.

Note: (3) Unlimited site license within one institution. Volume and state discounts are available. Negotiated lower prices for large multi-site contracts are possible. No additional costs for networks.

Note: (4) Unlimited site license within one institution. \$985 annually for three year license. Volume and state discounts are available. Negotiated lower prices for large multi-site contracts are possible.

Note: (5) \$1100 annually for three year license. Volume and state discounts are available. Unlimited site license within one institution. Negotiated lower prices for large multi-site contracts are possible.

Note: (6) CLECT is purchased as opposed to being leased. Selected modules may be purchased as follows: Occupational Search Module = \$200; Occupational Information Module = \$250; College Module = \$200; Vocational School Module = \$200; Financial Aid Module = \$200. Modules 1 and 2 must be of the same edition to function properly. Volume discounts are available.

Note: (7) Unlimited site license within one institution. Discounts may be available for states and multi-site contracts. Includes the cost of the CASHE system.

Note: (8) Second system at one site = \$1150; third system at one site = \$600; additional systems - no fee. Single copies of user and system support materials provided with system lease. Additional copies available at extra cost from the developer or by user reproduction. Discounts available for institutions with 300 or fewer students.

Note: (9) Second system at one site = \$1150; third system at one site = \$600; additional systems - no fee. Single copies of user and system support materials provided with system lease. Additional copies available at extra cost from the developer or by user reproduction. Discounts available for schools with 300 or fewer students.

Note: (10) Unlimited site license within one institution. Volume and state discounts are available. No additional costs for networks. One state vocational file provided at no charge. Optional state vocational files = \$24 each. A 3% shipping and handling cost will be added to the license fee.

Note: (11) Unlimited site license within one institution. Volume and state discounts are available. No additional costs for networks. One state vocational charge provided at no charge. Optional state vocational files = \$24 each. A 3% shipping and handling cost will be added to the license fee.

Table 4: Comparison of Costs

Note: (12) 2 year lease = \$1275; 3 year lease = \$1175; each additional system = \$875 per year. Volume discounts and network site license discounts are available.

Note: (13) State discounts are available.

Note: (14) These costs tend to be ongoing each year and vary with the number of users. This analysis assumes 500 users per year.

Note: (15) nc = No charge

Note: (16) na = Not available from the developer at this time.

Note: (17) Includes 500 Choices profiles at \$25 per 50 = \$250 plus 90 reusable Choices Guides at \$35 per 30 = \$105 for both Choices and Choices CT. This assumes that 90 Guides are necessary to effectively use 500 profiles.

Note: (18) See previous footnote.

Note: (19) Optional cost: Harrington-O'Shea CDM software (\$399); Interpretive folder (\$360 - \$18 per 25 copies).

Note: (20) Optional cost: Harrington-O'Shea CDM software (\$399); Interpretive folder (\$360 - \$18 per 25 copies).

Note: (21) Optional cost (\$21.90 per 30 copies) First 30 copies provided free of charge.

Note: (22) Optional cost (where fees apply) for one person to attend a conference/workshop.

Note: (23) These costs tend to be ongoing each year and vary with the number of users (this analysis assumes 500 users/year).

Note: (24) These costs tend to vary according to the number of staff being trained, staff turnover, and the need for updated training due to major changes in software design.

Table 5: Comparison of System Content (Jr. High/Middle School)

System Content	CHJr	CLECTJR	COINJr	DJH	VISIONS
Introduction					
Orientation to function keys ⁽¹⁾	no	no	no	yes	yes
Overview of system content	yes	no	no	yes	yes
Orientation/Exploration of world of work	yes	no	no	yes	yes
Assessment					
Capacity to complete paper-and-pencil version of on-line assessment prior to computer use ⁽²⁾	yes	yes	no	yes	yes
Capacity to input scores from paper-and-pencil administration of standardized instruments ⁽³⁾					
• ACT Career Planning Program	no	no	no	yes	yes
• California Achievement Tests	no	no	no	yes	yes
• Harrington O'Shea CDM	no	no	no	yes	yes
• Career Occupational Preference Survey	no	no	no	yes	yes
• Comprehensive Tests of Basic Skills	no	no	no	yes	yes
• Iowa Tests of Basic Skills	no	no	no	yes	yes
• Metropolitan Achievement Test	no	no	no	yes	yes
• SRA Achievement Test	no	no	no	yes	yes
• Stanford Achievement Test	no	no	no	yes	yes
Identifying Occupational Alternatives					
Capacity to select specific variables for identifying occupational alternatives					
• abilities/skills/activities	yes	no	no	yes	yes
• apprenticeship programs	no	no	yes	no	no
• aptitudes	no	no	no	yes	yes
• base occupation	no	no	yes	no	no
• career clusters/fields	yes	no	yes	yes	yes
• education and training	yes	yes ⁽⁴⁾	yes	yes	yes
• grades/test scores	no	no	no	yes	yes
• high school classes	yes	no	yes	no	no
• interests/fields of knowledge	yes	yes	no	yes	yes
• temperaments	no	yes	no	no	no
Obtaining Occupational Information					
Capacity to access occupational titles alphabetically without inputting code numbers ⁽⁵⁾	yes	no	yes	no	no
Multiple sources used to develop occupational information	yes	no	yes	yes	yes
Cycle for updating of salary and employment outlook data (in months)	var ⁽⁶⁾	48	var	annual	annual

Table 5: Comparison of System Content (Jr. High/Middle School)

System Content	CHJr	CLECTJR	COINJr	DJH	VISIONS
Cycle for updating all other occupational information (in months)	var	48	12	36	12
Information provided:					
• categorical information					
• DOT code	no	no	yes	no	no
• OES code	no	no	yes	no	no
• SOC number/fields of work	no	no	yes	no	no
• Holland Code	no	no	yes	no	no
• World-of-Work map affiliation/data-people-things-ideas clusters	no	no	yes	yes	yes
• advancement/promotion opportunities	no	no	yes	no	no
• aptitudes required	yes	no	yes	no	no
• career ladder	no	no	yes	no	no
• employment outlook	no	no	yes	no	yes
• educational requirements	yes	no	yes	yes	no
• fringe benefits	no	no	yes	no	no
• interest fields/likes-dislikes	yes	no	yes	no	no
• methods for entry	no	no	yes	no	no
• necessary tools & equipment	no	no	yes	no	no
• opportunities for experience	no	no	yes	no	no
• other requirements:					
experience/licensing/certification	no	no	yes	no	no
• personal qualities/temperaments	yes	no	yes	no	no
• physical demands/strength	yes	no	yes	no	no
• related information					
• apprenticeship programs	no	no	yes	no	no
• educational majors/programs	no	no	yes	yes	yes
• military occupations	no	yes	yes	no	no
• occupations/specialties	no	no	yes	no	no
• salary					
• average	no	no	yes	no	no
• beginning	yes	no	yes	no	yes
• range	yes	no	yes	yes	no
• top	yes	no	yes	no	no
• skills required	yes	no	yes	no	no
• suggested high school courses/programs	yes	no	yes	yes	yes
• training pathways/specific occupational training	no	no	yes	no	yes
• where to find more information	no	no	yes	no	no
• work tasks/activities	yes	no	yes	yes	yes
• work setting/environment/special conditions	yes	no	yes	no	yes
Number of occupations included	252 ⁽⁷⁾	700+	341	497	497
Number of related job titles	3500	2100+	1300	0	0
Educational Planning					
Capacity to link high school courses to related occupations	yes	no	yes	yes	yes

Table 5: Comparison of System Content (Jr. High/Middle School)

System Content	CHJr	CLECTJR	COINJr	DJH	VISIONS
Capacity to plan a high school curriculum on the basis of educational & career goals (8)	no	no	no	yes	yes
Comparison of grades to job cluster requirements	no	no	no	yes	yes
Development of an educational action plan	no	no	yes	yes	yes
Outline of courses required for graduation	no	no	no	yes	yes
Decision Making					
On-line description of a career decision-making model	yes	no	no	yes	no
User Exit					
Completing a brief on-line anonymous evaluation questionnaire (optional)	no	no	no	yes	yes
Local Data Option					
Capacity to integrate local data into the system	no	no	no	yes	yes

Table 5: Comparison of System Content (Jr. High/Middle School)

Note: (1) CACG abbreviations include:

CHJr = Choices for Junior High and Middle Schools (Careerware-ISM Systems Corporation, 1992); CLECTJR = CLECT JR (Chronicle Guidance Publications, Inc., 1993); COINJR = COIN for Junior High and Middle Schools (COIN Educational Programs, 1992); DJH = DISCOVER for Junior High & Middle Schools (American College Testing Program, 1992); and VISIONS = VISIONS for Middle Schools (American College Testing Program, 1992).

Note: (2) Potentially reduces the amount of time the user spends at the computer.

Note: (3) The user completes a paper-and-pencil administration of a standardized instrument prior to computer use.

Note: (4) Entry of off-line assessment results required in order to search by education and training, interests, and temperament variables.

Note: (5) Some information provided by VISIONS is Maryland-specific.

Note: (6) var = Variable schedule for information updating depending on when total software revisions are completed (approximately every 1 to 3 years).

Note: (7) Occupational clusters

Note: (8) Requires local data entry

Table 6: Comparison of User Friendly Features (Jr. High/Middle School)

User Friendly Features	CHJr	CLECTJR	COINJr	DJH	VISIONS
Analogous color scheme video displays ⁽¹⁾	yes	no	yes	yes	yes
Multi-colored graphic enhanced screen displays	yes	no	yes	yes	yes
System content color-coded ⁽²⁾	no	no	yes	no	no
Sound effects	yes	no	no	yes	yes
Upper/lower case characters	yes	no	yes	yes	yes
Special purpose function/alt keys					
• back-up function	Esc ⁽³⁾	yes	yes	yes	yes
• locate position in the system	no	no	no	yes	yes
• previous item back-up (on-line assessment instruments only)	no	no	no	yes	yes
• print screen	no	yes	yes	yes	yes
• quick exit	Esc	no	yes	yes	yes
• repeat instructions/help	no	no	yes	yes	yes
Menu driven screen sequencing	yes	no	yes	yes	yes
Main menu indicates completed components/modules	no	no	no	yes	yes
Preliminary operating instructions	yes	no	no	yes	yes
Prompting for user input	yes	yes	yes	yes	yes
User controlled access to system content	yes	yes	yes	yes	yes
User data maintenance capabilities					
• user data delete option	no	no	no	yes	yes
• password protection for user data	no	no	no	yes ⁽⁴⁾	yes
Data collection for accountability and research					
• data on system use					
• aggregate	no	no	no	yes	yes
• individual	no	no	no	yes	yes
• demographic data					
• aggregate	no	no	no	yes	yes
• individual	no	no	no	yes	yes
• user satisfaction data	no	no	no	yes	yes
Introductory instruction omitted for experienced users	yes	no	no	yes	yes
Purpose of each component/module explained	yes	no	no	yes	yes
Summary screen display/printout for each component/module	no	no	no	yes	yes
User memory record (system capability to store user data between sessions)	no	no	no	yes	yes
component/module into another component/module	no	no	no	yes	yes
Apple version available	yes	yes	yes	yes	yes
Macintosh version available	yes	no	yes	no	no
Conversation summary supplied	yes	no	no	no	no
Name added to printout	yes	no	no	no	yes

Table 5: Comparison of User Friendly Features (Jr. High/Middle School)

Note: (1) Assumes United States software versions on IBM compatible microcomputers unless otherwise noted
Response time after data input varies among computers depending on type of processor, clock speed, memory available, and hard disk access speed. Video display (monitor) screen resolution (sharpness) varies with different monitors and display interfaces, with Super VGA, VGA, EGA formats providing better resolution than CGA formats

Note: (2) Color coding of instruction/error messages and display backgrounds to match system content.

Note: (3) Esc = Escape (Esc) key provides this function

Note: (4) Uses private number or social security number as last place of password.

Table 7: Comparison of Support Materials and Services Available from Developers (Jr. High/Middle School)

Support Materials and Services	CHJr	CLECTJR	COINJr	DJH	VISIONS
Support Materials for Users					
Nonconsumable materials					
• user guide/handbook	yes	yes ⁽¹⁾	no	yes	yes
• list of occupations					
• ACT cluster	no	no	no	yes	yes
• alphabetical	yes	yes	no	yes	yes
• career fields/occ. groups	yes	no	no	yes	yes
• similar occupations	yes	yes	no	no	no
• list of high school courses by job clusters	no	no	no	yes	no
• poster - World-of-Work map	no	no	no	yes	yes
• quick reference card for function keys	no	no	no	yes	yes
• tutorial	yes	no	no	no	no
Consumable materials					
• user guide/handbook	yes	yes	yes	yes	yes
• activity checklist	yes	yes	yes	no	no
• workbook (assessment and action planning)	no	yes	yes	yes	yes
Support Materials for Institutions					
<u>Manual</u>					
Publication date	1992	1992	no date	1991	1993
Professional/paraprofessional					
• administrative/research reports	yes	no	no	yes	yes
• counseling steps	no	no	no	yes	yes
• important phone numbers	yes	yes	yes	yes	yes
• instructions for providing feedback to developers	yes	no	no	no	no
• list of occupations					
• alphabetical order	yes	yes	no	yes	yes
• career fields/occ. groups	yes	no	no	yes	yes
• most common occupations	no	no	no	no	no
• similar occupations	yes	yes	no	no	no
• related to high school courses	no	no	no	yes	no
• related to levels of required education	no	no	no	yes	yes
• pilot test data	no	no	no	yes	yes
• recommendations for integrating the software into service delivery	yes	no	no	yes	yes
• system design process & assumptions	yes	yes	no	yes	yes
• system overview					
• component/module overview	yes	yes	yes	yes	yes
• user needs & system use options	yes	no	no	no	no
• using the printout in counseling	no	no	no	yes	yes

Table 7: Comparison of Support Materials and Services Available from Developers (Jr. High/Middle School)

Support Materials and Services	CHJr	CLECTJR	COINJr	DJH	VISIONS
Site administrator					
• choosing the best location	no	no	no	yes	yes
Technical					
• installation instructions	yes	yes	yes	yes	yes
• localization instructions	no	no	no	yes	yes
• operating instructions	yes	yes	yes	yes	yes
• references	no	no	no	yes	yes
• trouble shooting	yes	no	no	yes	yes
Newsletter					
Information/updates	yes	yes	yes	yes	yes
Research & development	yes	no	yes	yes	yes
Videotape					
Counselor training videotape	no	no	no	yes	no
System installation videotape	no	no	no	yes	no
Demonstration Resources					
Demonstration disk or demonstration video for software evaluation and/or public relations	yes	no	yes	yes	yes
Counselor/Administrator Reports					
Identification of users	no	no	no	yes	yes
User characteristics	no	no	no	yes	yes
• List of students and tentative occupational choice (occupations explored)	no	no	no	yes	yes
• List of occupations/clusters and students selecting them	no	no	no	yes	yes
• List of programs of study/courses and students selecting them	no	no	no	yes	yes
Use of system components	no	no	no	yes	yes
User evaluation of the system	no	no	no	yes	yes
Total profile of system use	no	no	no	yes	yes
Letter to parents (customized for each user)	no	no	no	yes	yes
Technical Support for Institutions					
By phone	yes	yes	yes	yes	yes
Training from the Developer					
On-site training	yes	no	yes	yes	yes
National/regional/state conferences	yes	no	yes	yes	yes

Table 7: Comparison of Support Materials and Services Available from Developers (Jr. High/Middle School)

Note: (1) Information contained in the Career Profile Guide in lieu of presenting information in the system.

Table 8: Comparison of Costs (Jr. High/Middle School)

Feature	CHJr	CLECTJR	COINJr	DJH	VISIONS
Software Purchase					
System ⁽¹⁾	\$395 ⁽²⁾	\$200 ⁽³⁾	\$249 ⁽⁴⁾	\$600 ⁽⁵⁾	\$250 ⁽⁶⁾
Support Materials					
Consumable (assumes 500 users per year) ⁽⁷⁾					
• activity checklist	\$106 ⁽⁸⁾	na ⁽⁹⁾	na	na	na
• workbook (assessment & action planning)	na	447 ⁽¹⁰⁾	477 ⁽¹¹⁾	na	nc ⁽¹²⁾
Technical Support	800#	800#	800#	800#	800#
Training from the Developer					
National/regional conference/workshop registration fee ⁽¹³⁾	nc	nc	nc	nc	nc
SUB-TOTAL COSTS					
Software purchase	\$395	\$200	\$249	\$600	\$250
Optional costs without constants					
• support materials ⁽¹⁴⁾	\$106	\$447	\$477	\$0	\$0
• conference registration fees ⁽¹⁵⁾	\$0	\$0	\$0	\$0	\$0
subtotal	\$106	\$447	\$477	\$0	\$0
TOTAL COSTS	\$501	\$647	\$726	\$600	\$250

Table 8: Comparison of Costs (Jr. High/Middle School)

Note: (1) Some costs are constant across all systems, such as hardware, and hardware maintenance; supplemental career information resources; supplies (paper & printer supplies); facilities (physical renovation and computer furniture, if necessary); staff time necessary for developing and inputting local occupational, educational, and service delivery information, and developing organization-specific support materials; and conference travel expenses related to staff training. Appropriate constant costs should be included in any calculation of total CACG expenses for an organization. Only features where costs apply are included in this table. Refer to Table 7 for a complete listing of all support materials and services that are available from the developers.

Note: (2) One time cost (no annual software updates). Unlimited site license within one institution. Discounts are available for software upgrades which occur approximately every 2 to 3 years.

Note: (3) One time cost (no annual updates). Unlimited site license within one institution.

Note: (4) One time cost (no annual software updates). Unlimited site license within one institution. Discounts are available for software upgrades which occur approximately every 2 to 3 years. Networking price = \$299.

Note: (5) One time cost (no annual software updates.) Unlimited site license for one institution = \$900. Single copies of user and system supply materials provided with system lease. Additional copies available at extra cost from developers or by user reproduction. Multiple school district license = \$550 per school.

Note: (6) Annual cost.

Note: (7) These costs tend to be ongoing each year and vary with the number of users (this analysis assumes 500 users/year).

Note: (8) Optional cost (\$25 per 100 copies, over 500 ordered = \$21.20 per 100)

Note: (9) na = Not available from the developer at present.

Note: (10) Optional CLECT JR workbook = .95 each, with the first 30 copies at no charge. Volume discounts provided.

Note: (11) Optional cost for Career Exploration and Planning Guide = \$1.95 per copy. Software is provided at no cost with the purchase of 200 planning guides.

Note: (12) nc = No charge

Note: (13) Optional cost (where fees apply) for one person to attend conference/workshop.

Note: (14) These costs tend to be ongoing each year and vary with the number of users (this analysis assumes 500 users per year).

Note: (15) These costs tend to vary according to the number of staff being trained, staff turnover, and the need for updated training due to major changes in the software design.

Table 9

Availability of State-Specific Occupational Information in CACG Systems¹

Software	State/Territory/City ²
Choices and Choices CT ³	Arizona California Colorado District of Columbia Guam * ⁴ Florida * Indiana * Iowa * Kansas Louisiana * Maine * Mississippi * Missouri * ⁵ New Hampshire New York North Dakota * Northern Mariana Islands * Pennsylvania * South Dakota Utah * Vermont * Wyoming
Career Information System (CIS)	Alaska * California Colorado * Georgia * Hawaii * Idaho * Illinois * Minnesota * Montana * Nebraska * Nevada * New York (City) Ohio * Oregon *

¹ Current as of July 1994² California, Connecticut, New Hampshire, Massachusetts, New York, Texas, West Virginia, and the Virgin Islands have one or more computer-assisted career guidance systems in operation, but the State Occupational Information Coordinating Committee (SOICC) has not designated any as the official state-wide computer-based career information delivery systems (CIDS).³ Choices Jr has received SOICC recognition in Alabama, Guam, Florida, Indiana, Iowa, Louisiana, Maine, Mississippi, North Dakota, Northern Mariana Islands, Rhode Island, Utah, and Vermont.⁴ An asterisk (*) indicates official SOICC designation as a computer-based CIDS.⁵ Missouri Choices is based on Choices CT and is administered by the Missouri SOICC.

Software	State/Territory/City
Career Visions	Texas Wisconsin *
COIN	California Indiana Missouri ⁶ Ohio Oklahoma * Pennsylvania South Carolina * Texas
DISCOVER for Colleges and Adults and DISCOVER for High Schools	Texas
GUIDANCE INFORMATION SYSTEM ⁷ Version 17 and GIS II	Alabama * Delaware * Maine * New Mexico * Rhode Island *
VISIONS Plus	Maryland *
State-specific systems ⁸	Arizona * Arkansas * Kentucky * Michigan * New Jersey * Puerto Rico * South Dakota * Tennessee * Virginia * Washington * Wyoming *

⁶ Missouri View is based on COIN and is administered by the Missouri Department of Education.

⁷ Data on "Employment Potential" (emerging, established and growing, large and stable, small and stable, declining, and individual talent) is automatically available for each state nationwide. An optional vocational-technical information file for each state is available at extra cost.

⁸ Includes computer-based CIDS with software and data that are unique to a particular state/territory, or use computer-based CIDS with software that has been substantially modified from an original system.

Table 10

CACG System Location, Data Base Origin, and Language¹

CACG System	Location ²	Data Base Origin	Language
Career Information System (CIS)	USA (CIDS)	USA State	English
Career Visions	USA (CIDS)	USA State	English
Choices	Belgium	Belgium	Flemish French
	Canada	Canada	English
		Canada	French
	France	France	French
	Hungary	Hungary	Hungarian
	Luxembourg	Belgium	French
	Netherlands	Netherlands	Dutch
	USA	USA	English
Choices CT	USA (CIDS)	USA	English
Choices Jr	Canada	Canada	English
		Canada	French
	USA	USA	English
Modular C-LECT	USA	USA	English
C-LECT Jr.	USA	USA	English
COIN	USA	USA	English
	USA (CIDS)	USA State	English
COIN JR.	USA	USA	English
DISCOVER for Colleges and Adults	USA	USA	English
DISCOVER for High Schools	Canada ³	Canada	English
	USA	USA	English

¹ Current as of July 1994² Where appropriate, USA locations are designated as a Career Information Delivery System (see also Table 9) or as a United States military installation. Unless otherwise noted, the system is available on a nation-wide basis. Systems available in multiple countries that use the country-of-origin data base and language are omitted from this table.³ Includes assessment components from DISCOVER for Colleges and Adults.

CACG System	Location	Data Base Origin	Language
DISCOVER Special Ver.	USA (Military)	USA	English
DISCOVER for Junior High & Middle Schools	USA	USA	English
GUIDANCE INFORMATION SYSTEM Version 17	USA	USA	English
	USA (CIDS)	USA State	English
	USA (Military)	USA	English
GIS II (GUIDANCE INFORMATION SYSTEM)	English		
	USA (CIDS)	USA State	English
	USA (Military)	USA	English
SIGI PLUS	USA	USA	English
	Australia	Australia	English
VISIONS Plus	USA (CIDS)	USA State	English
VISIONS (Jr High & Middle Sch)	USA (CIDS)	USA State	English

Table 11

Addresses and Phone Numbers of Computer-Assisted Career Guidance System Developers

CACG System	Address and Phone Number
Career Information System (CIS)	National Career Information System University of Oregon 1177 Pearl Street Eugene, OR 97401-3527 (503) 346-3872
Career Visions	Wisconsin Career Information System Center on Education and Work University of Wisconsin-Madison 1025 West Johnson Street Madison, WI 53706 (800) 442-4612
Choices Choices CT Choices Jr	Careerware: ISM Systems Corp. 2220 Walkley Road Ottawa, Ontario K1G 5L2 CANADA (800) 267-1544
MODULAR C-LECT C-LECT Jr.	Chronicle Guidance Publications, Inc. 66 Aurora Street P.O. Box 1190 Moravia, NY 13118-1190 (800) 622-7284
COIN COIN JR.	COIN Educational Products 3361 Executive Parkway, Suite 302 Toledo, OH 43606 (800) 274-8515
DISCOVER for Colleges and Adults DISCOVER for High Schools DISCOVER for Junior High & Middle Schools VISIONS Plus VISIONS (Jr High & Middle Sch)	American College Testing Program ACT Educational Technology Center Schilling Plaza South 230 Schilling Circle Hunt Valley, MD 21031-1107 (800) 645-1992
GUIDANCE INFORMATION SYSTEM Version 17 GIS II (Guidance Information System)	Riverside Publishing Company Attention: GIS 8420 Bryn Mawr Avenue Chicago, IL 60631 (800) 323-9540
SIGI PLUS	Educational Testing Service Center for Occupational and Professional Assessment Princeton, NJ 08541 (800) 257-7444