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AUTHOR	Olson, LeVene A.
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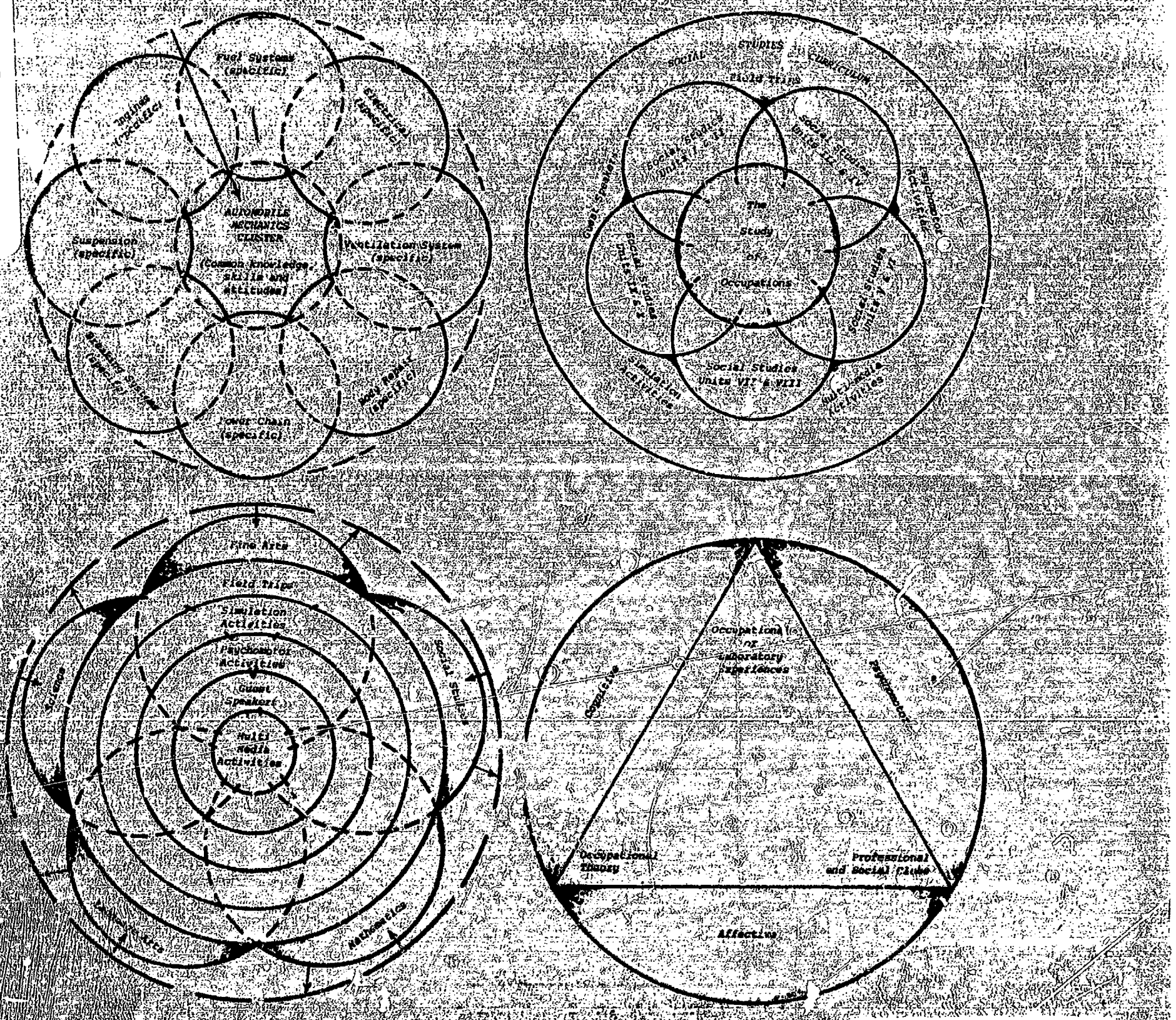
ABSTRACT

Information for the model contained in this paper was obtained through contacts and personal association with many educators and practitioners whose concern has been the need to provide information and experience to students about occupational and educational alternatives. Planned educational experiences that relate to occupations and that are provided by elementary and secondary teachers constitute the components of the career development education described in this document. These experiences include decision-making experiences, industrial visits, counseling, career games, simulations, and periodic career conferences. Components of the model are: (1) Career Awareness (for Grades K-6), (2) Career Orientations (for Grades 7 and 8), (3) Career Explorations (for Grades 9 and 10), and (4) Career Preparatory (for Grades 11 and 12). A bibliography categorized by service areas is included. (MU)

Career Development Components

in

Vocational Education: A Diagrammatic Model K-12



LeVene A. Olson, Ed.D.
Department of Vocational-Technical Education
Marshall University
Huntington, West Virginia

PREFACE

Career Development education in this paper concerns itself with planned educational experiences that relate to occupations. The experiences are provided by elementary and secondary education teachers.

The components of career development education in vocational education are as follows:

K - 6	Career Awareness
7 - 8	Career Orientation
9 - 10	Career Exploration
11 - 12	Career Preparatory

The author recognizes that career development also exists in the absence of vocational education programs. There are numerous planned (academic) and unintentional activities which students experience that are a part of career development but not a part of vocational education.

Information for the model contained in this paper was obtained through contact and association with many educators and practitioners. However, the author assumes sole responsibility for the contents of this paper. Points of view do not necessarily represent official State Department of Education or Marshall University philosophy or policy.

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INTRODUCTION

Educators, parents, and the public are becoming increasingly concerned about the need to provide accurate and complete information and meaningful experiences to students about occupational and educational alternatives. Although educators are usually not concerned with attitudes concerning occupations per se, they are concerned with behavior modification in the dimension of career development.

According to Bandura, "the development of beneficial attitudes is often regarded as a major objective of social change endeavors."[1] He further points out that it is assumed that a correlation exists between the attitudinal domain and subsequent actions. Yet in light of this objective, Toffler states that "the more crucial the question of values (attitudes) becomes, the less willing our present schools are to grapple with it. It is no wonder that millions of young people trace erratic pathways into the future, ricocheting this way and that like unguided missiles."[2]

Students possess a vast repertoire of behavior which reflects attitudes about occupations and education. Many of these attitudes are based, however, on inadequate information and experiences acquired from misguided socialization agents. The process of socialization (learning attitudes and values) has for the most part in the past come about unintentionally. Attitudes about occupations and education have been formed through incidental learning which has often been based on inaccurate or faulty information. But even with inaccurate or faulty information the youth of

today seem to possess a high degree of sophistication. Today's students do not appear to be as naive as the students of the past. Even so, thousands of students graduate from high school each year lacking a useful education.

In the agrarian society of the American Nation in former years, adult roles were quite visible. Large extended families provided uncles, aunts, grandparents, parents, and others for the young to imitate. Small factories and businesses were often found in the home. The youth were surrounded by and involved in work activities which provided the knowledge and experience upon which attitudes were formulated.

In the past, educated and literate employees were desired but by no means essential. Some of the greatest industries in the United States in the past were administered principally by men who could not speak English.[3] However, the development of a highly sophisticated body of science and experience in its application has resulted in rare occurrence of such phenomena.

Changes in American society have virtually eliminated the traditional method of gaining knowledge and experience upon which attitudes and subsequent occupational decisions are facilitated. If students who comprise the emerging labor force are to be viable members of society, it is important that they be provided with the knowledge and experience upon which future occupational decisions can be based.

The need for innovative educational programs in a period of massive technological change has long been recognized. Galbraith observed that youth has been excluded from the labor market partly because of the hardship of employment and partly to make way for educational opportunities.

Yet, youth has not been provided with the education (at least in full and satisfactory measure) which the exemption from labor was designed to make possible.[4]

Congress recognized the need for "new ways to create a bridge between school and earning a living for young people"[5] *by including a section on Exemplary Programs and Projects in the Vocational Education Amendments of 1968. One method of carrying out the purposes of Part D, Section 142, is to establish innovative model programs "designed to familiarize elementary and secondary school students with the broad range of occupations for which special skills are required and the requisites for careers in such occupations.*[6] *The purposes of Part D are to "stimulate.....new ways (models) to create a bridge between school and earning a living for young people."*[7]

Theoretical developmental models have been provided by numerous educators and practitioners. Yet a need exists for a diagrammatic model which begins with kindergarten and extends through hign school. The need for strategies to implement such a model also exists.

Hansen suggests that present career development practices in the schools have not kept pace with theoretical developments. Traditional methods of providing career information (occupational information units, career days, etc.) need to be evaluated and possibly replaced by a sequential program, K-12. Hansen's suggestions are based on changes in vocational development theory, the nature of work and its meaning to the individual, and new information retrieval technology. The following are suggested examples of experiences that may be included in a career development program: (1) decision-making experiences, (2) industrial and educational visits, (3) counseling, (4) career games, (5) simulated decision-

making experiences, (6) periodic visits to career guidance centers, (7) periodic career conferences, (8) job site visits, (9) reinforcement models, (10) staff career specialities, and (11) students career logs.[8]

The career development model proposed in this paper is based on the nature of sociological changes and the resulting ramifications for the individual in today's society, the vast technological advances which leave many (to use Toffler's terminology) in a state of "future shock," psychological theory of attitude formation and change which include the dimensions of affect, behavior, and cognition, and empirical and theoretical advances in career development.

Through a career development program, education can become much more relevant for Americans of all ages. However, administrators and teachers must be willing to: (1) move away from a regimented curriculum, (2) give up an authoritarian orientation, (3) bring the outside real world into the classroom, and (4) allow students to begin an educational experience at the point of interest and concern of the students.

OVERVIEW OF THE CAREER DEVELOPMENT MODEL

Diagrammatically, the career development model takes the form shown in Figure 1. The base or horizontal axis represents the total population of students at a particular age level. Note that this model includes all of the students whether they will eventually become medical doctors, secretaries, bookkeepers, or automobile mechanics. Because existing teachers and facilities are utilized in grade levels K-8, major expenditures are not necessary for schools to implement effective programs.

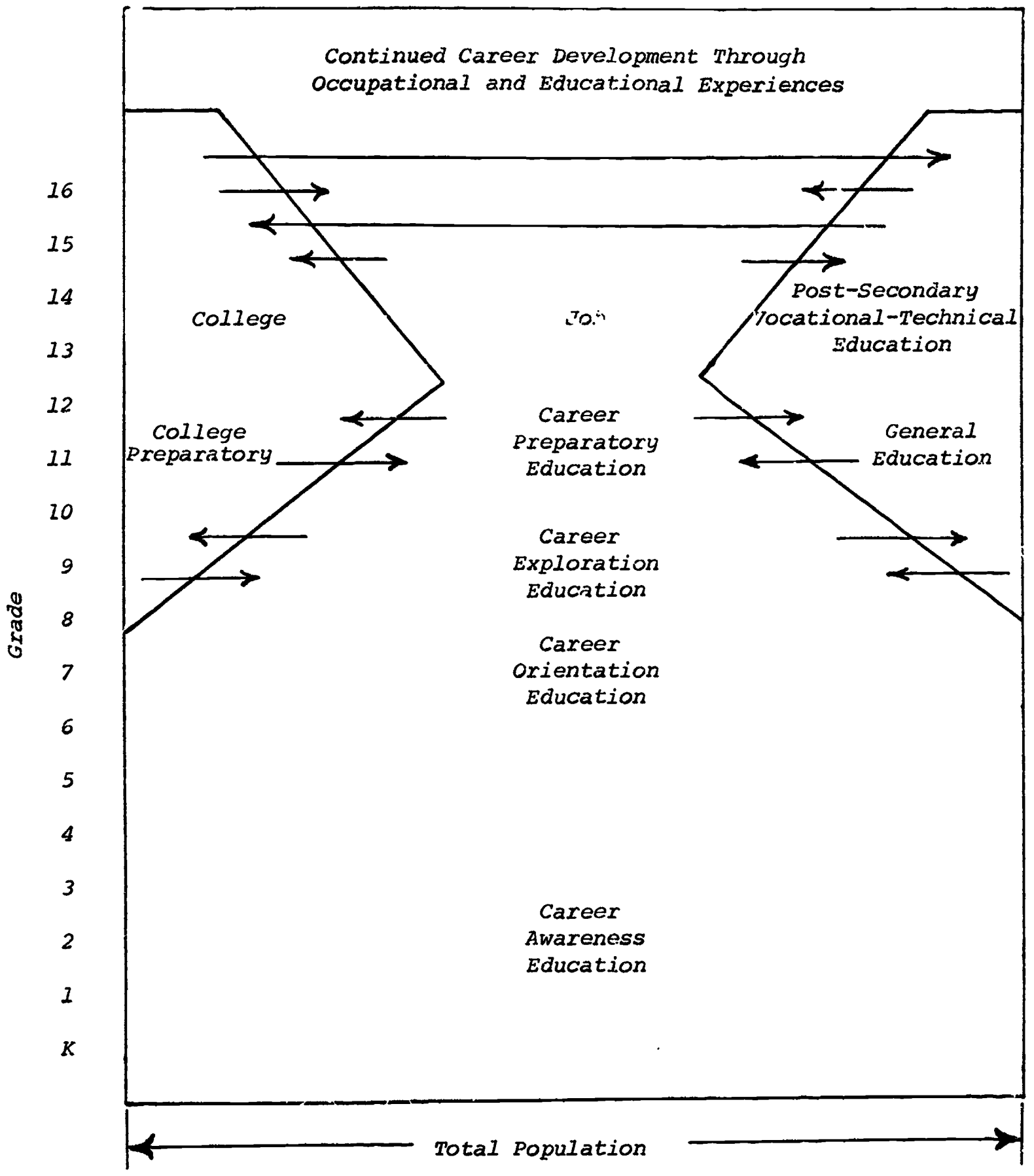

Figure 1. Career Development K - Adulthood.

The options generally offered to students in their career development are college preparatory, vocational, and general education. This model contains these options. Rather than allow for vertical mobility only, horizontal mobility is suggested. Students who wish to take advantage of options other than the one they are currently enrolled in are given this prerogative. For example, vocational education students are allowed to enroll in college preparatory and/or general education courses. College preparatory and general education students are also provided with these options. The system of tracking on locking students into a prescribed structure is eliminated in this model.

In the study of occupations, students in the kindergarten level will begin with what they know, namely, the family. The concepts of work, duties, and responsibilities as they relate to occupations found in the home are studied with emphasis on what the children are able to do to assist other members of the family.

The occupational narrow base is broadened as the child ascends the educational ladder. Breadth in the study of occupations is increased each year as follows: Level one: the study of occupations of the members of the family; Level two: the study of occupations found in the community; Level three: the study of occupations found in the county; Level four: the study of occupations found in the state; Level five: the study of occupations found in the nation; and Level six: the study of occupations of a world-wide nature. Figure 2 illustrates the increasingly breadth of study as the student advances in his education.

In grades seven and eight the breadth of occupations is maintained within selected multi-occupational families. Occupations within each

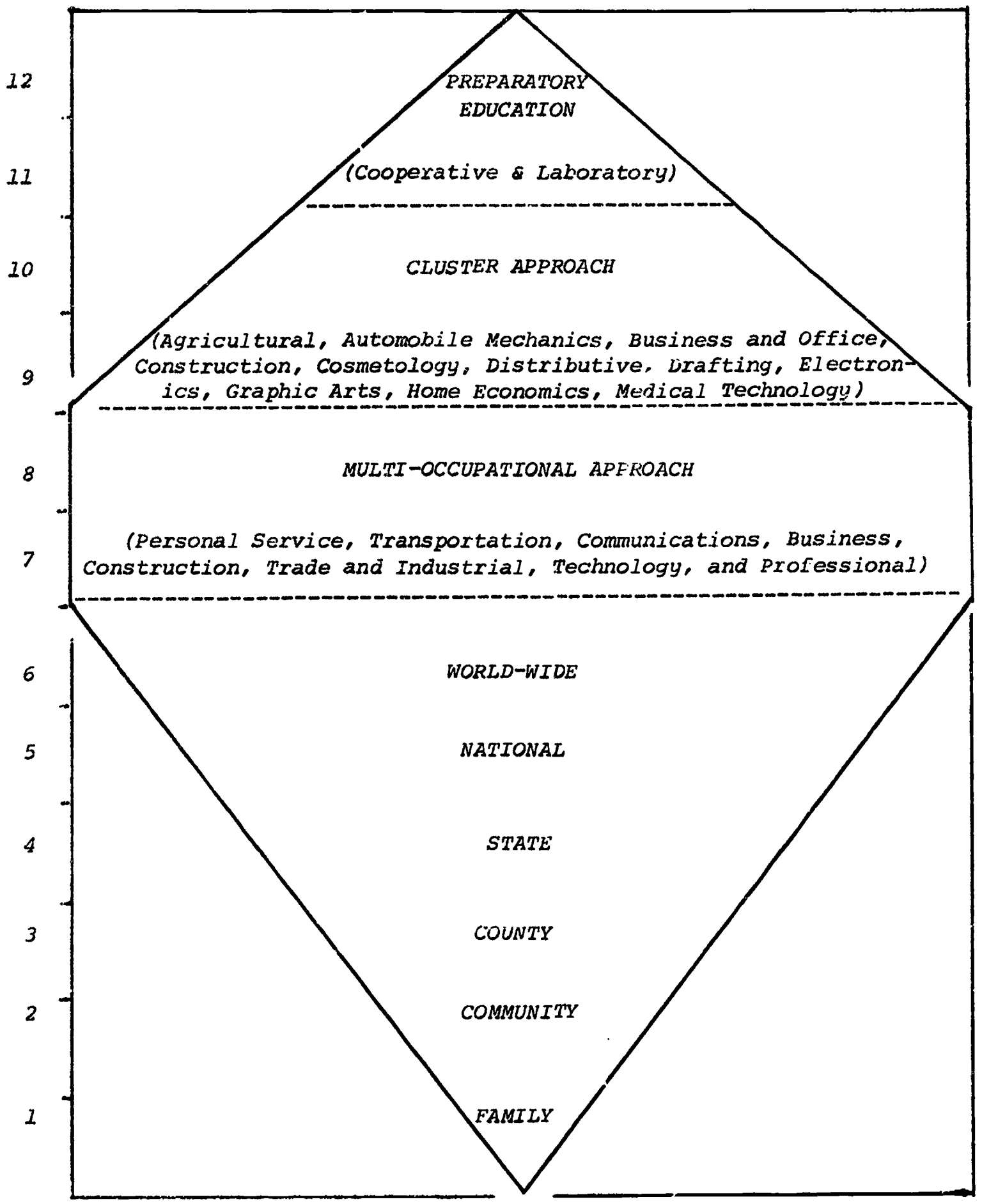

Figure 2. Breadth of Occupations Investigated by Elementary and Secondary Students.

multi-occupational family are selected to fit the local, State, and student needs.

During the ninth and tenth grades, the student is provided with skills, knowledge, and attitudes required for job entry into numerous occupations. The emphasis is on entry level capabilities for many occupations rather than preparation for a single occupation. The clusters utilized in the hands-on laboratory experiences may consist of the following: Agricultural, Business-Office, Construction, Cosmetology, Distributive, Drafting, Electronics, Graphic Arts, Home Economics, Medical Technology, Metal Fabrication, and Power Transportation. Depending on the cluster, the course may be taught in the industrial arts laboratory, agricultural laboratory, business laboratory, distributive laboratory, or the career center laboratories.

Career Preparatory Education is provided in the eleventh and twelfth grade levels in the occupational areas required to meet local, State, and student needs. Career Preparatory education should contain a wide representation of cooperative and laboratory programs.

The objectives for each level of the career development program are as follows:

K - 6: Provide occupational and educational experiences which will increase the student's understanding of self and occupations and produce an awareness of the occupational options available to the student in the world of work.

K - 8: Provide orientation experiences which will assist the student in identifying his abilities, aptitudes, interests, attitudes, feelings, needs, fears, and limitations in relation to the advantages and disadvantages

of occupations within multi-occupational families.

9 - 10: Provide exploratory hands-on laboratory experiences in selected occupational clusters which will provide entry level skills which will aid the student in making decisions about further career education.

11 - 12: Provide cooperative and/or laboratory experiences with emphasis on the knowledge, skills, and attitudes necessary for employment and/or employment up-grading.

For the career development program to be effective, certain dimensions must be emphasized throughout the many phases of the program. The dimensions to be included are diagrammatically illustrated in Figure 3.

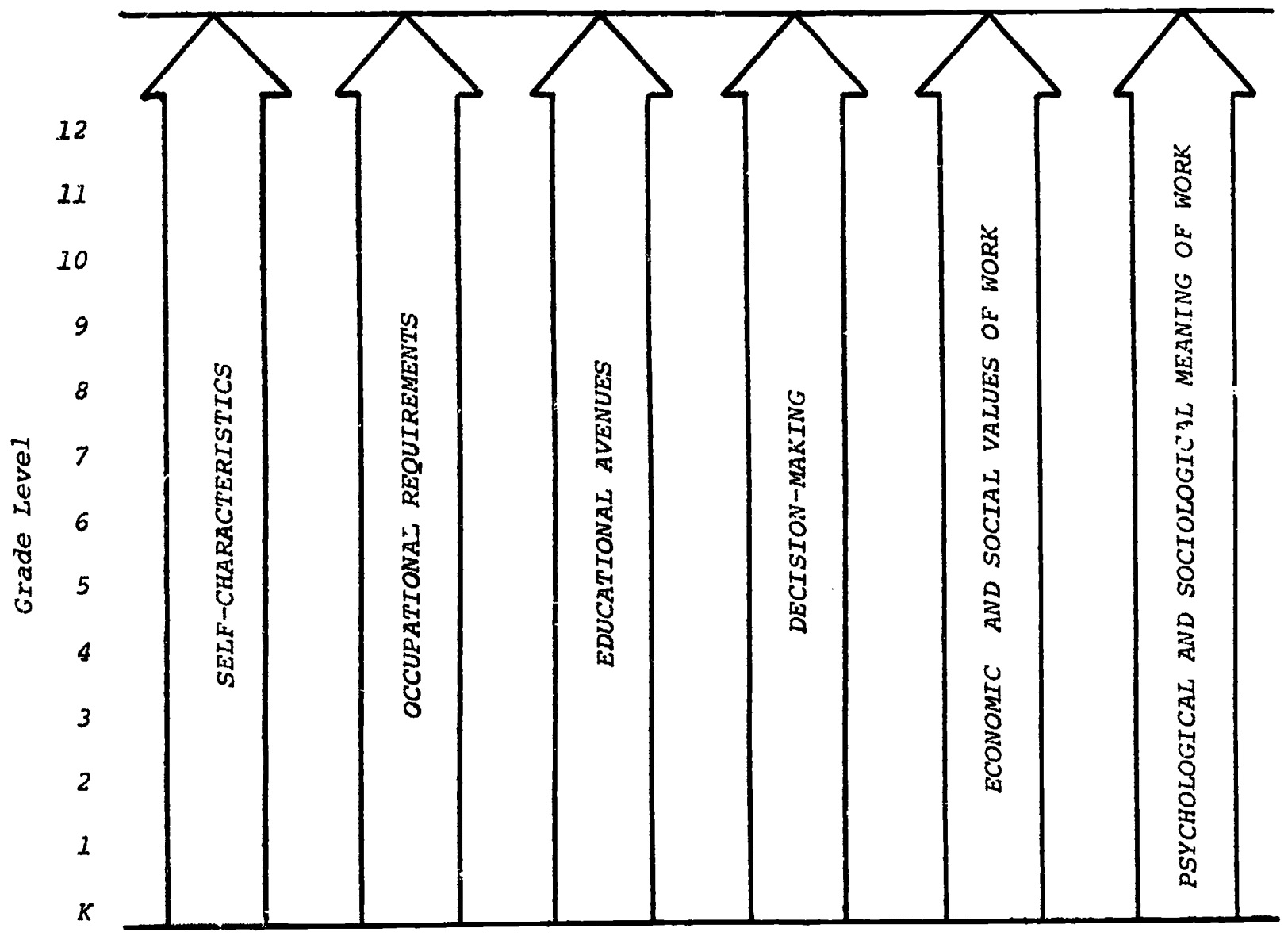

Figure 3. Career Development Dimensions[9]

CAREER AWARENESS EDUCATION

Students in grade levels K-6 receive occupational knowledge and experiences through the existing disciplines of social studies, mathematics, language arts, science, and fine arts. The objective of career awareness education is to provide occupational and educational experiences which will increase the student's understanding and produce an awareness of the occupational options available to the student in the world of work.

Through a process called curriculum blending (correlating or relating subject matter to occupational requirements), occupational information is introduced in one discipline or simultaneously in more than one discipline. The study of an occupation is introduced where interest can be stimulated.

The methods or techniques used to provide students with occupational knowledge and experiences are (1) Field Trips to business, industrial, and governmental institutions, (2) Simulation activities of cognitive, affective, and psychomotor nature including paper and pencil simulation, role playing, and practical hands-on simulation, (3) Psychomotor activities such as painting, drawing, printing, sewing, sawing, hammering, sanding, etc., (4) Guest Speakers representing the family, community, business, industry, and government, and (5) Multi-media activities such as books, films, slides, visuals, audio tapes, video tapes, organizational publications, etc. The methods or techniques are diagrammatically illustrated in Figure 4.

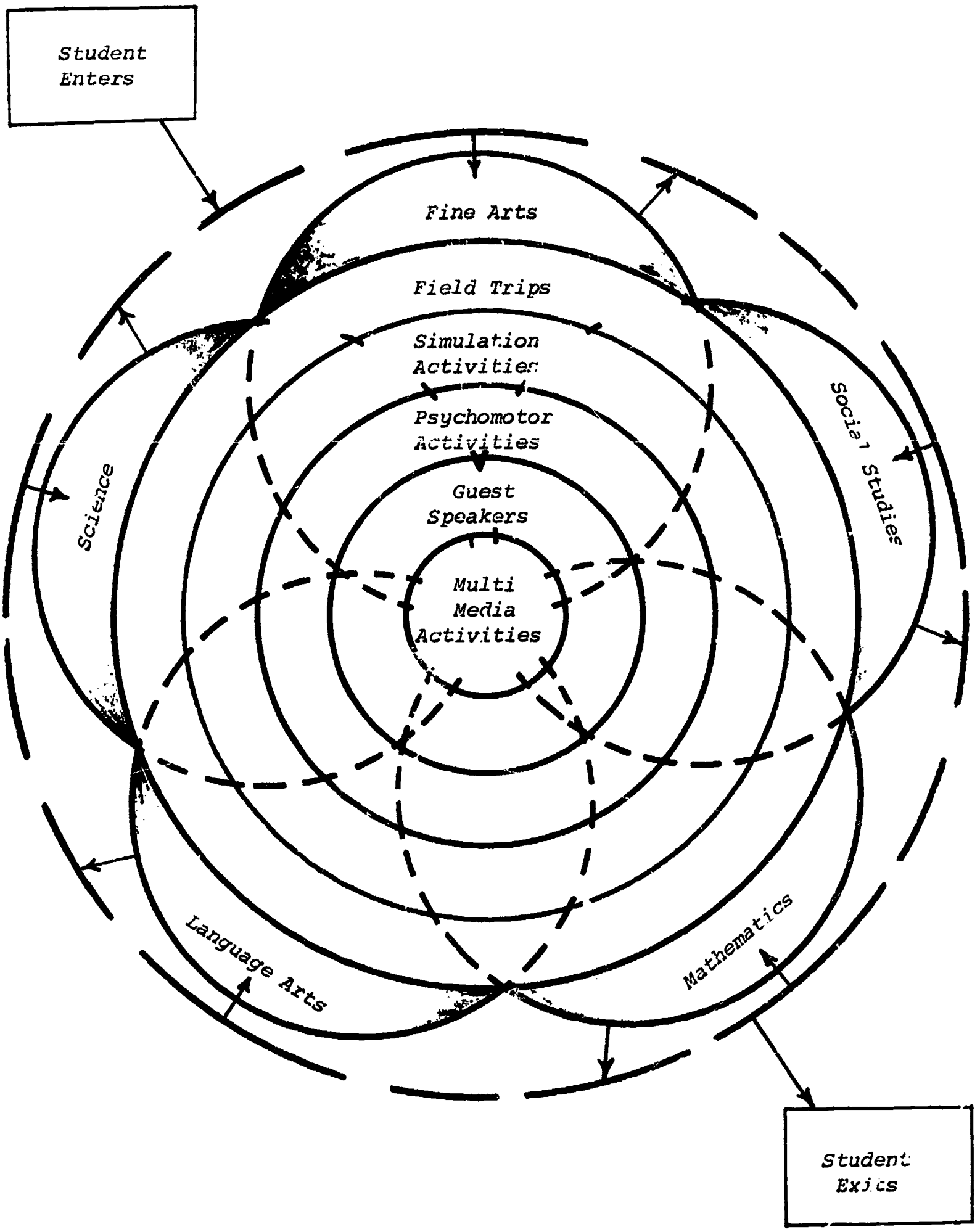

Figure 4. Career Awareness Model.

The following are suggested techniques for introducing occupational clusters.

When the occupational cluster is of such a highly technological character that it is difficult to grasp the numerous occupations involved, interest may be stimulated through a field trip. For example in the area of computer science, curriculum blending through mathematics may spark an interest not only in computer science but also in the study of mathematics thus making mathematics more relevant to the student. Subsequently, other techniques can be used to complete the study of computer science in mathematics or other disciplines.

When the occupational cluster is of such a nature that the students possess knowledge of occupational roles (whether accurate or inaccurate), interest may be stimulated by role playing. The role playing may consist of acting-out occupational roles, completing a paper and pencil simulated exercise, or by being involved in a practical simulation experience (electrical wiring of a model home). The teacher and students can later compare the degree of accuracy in the first simulated exercise with knowledge gained through additional study. For example in the protective services, students will undoubtedly feel as though they understand the role of the watchman, police officer, detective, and FBI man. Curriculum blending through social studies may be used with simulated exercises as the point of entry into the study of the protective services. Subsequently other techniques and other disciplines may be used.

Students need to begin developing manipulative competence such as painting, drawing, printing, sewing, sawing, hammering, sanding, etc. at an early age. Because students are generally interested in manipulative activities, these activities are often an excellent entry point.

An example of how this technique might be used as opposed to one of the others is as follows. In studying crafts of Appalachia, the teacher can interest the students in sewing (boys and girls) through curriculum blending in the discipline of fine arts. Additional occupational information can be provided through the other disciplines using psychomotor activities and other techniques.

When the occupational cluster is of such a nature that a well known person is available for group presentations, this technique may be used to stimulated interest. For example in the communications industry, curriculum blending through language arts may provide the point of entry if a reporter, news announcer, etc. is available. Other techniques and disciplines can then be utilized to further develop an understanding of the occupational cluster.

A whole host of occupational information is available to students through books, occupational briefs, business and industry displays, slides, films, visuals, audio types, video tapes, etc. The multi-media technique may prove to be the most useful approach to the introduction of an occupational cluster in the five disciplines. For example in the area of space technology, curriculum blending through the subject of science using films, tapes, etc. and existing laboratory equipment may create a lasting interest (vocational or avocational) in space technology and make science more relevant. The other techniques could subsequently be used in science or in some, all, or none of the other disciplines.

CAREER ORIENTATION EDUCATION

Students in grade levels 7-8 receive career orientation experiences

through one of the existing disciplines (preferably social studies) when these grades are departmentalized. When these grades are in self-contained classrooms, curriculum blending through existing disciplines is utilized.

The objective of career orientation education is to provide occupational experiences which will assist the student in identifying his abilities, aptitudes, interests, attitudes, feelings, needs, fears, and limitations in relation to the advantages and disadvantages of a wide range of occupations in the multi-occupational family being studied.

Activities will include Field Trips, Simulation Activities, Psychomotor Activities, Guest Speakers, and Multi-media Activities. (Refer to Career Awareness Education for additional information concerning these activities.)

The multi-occupational families suggested are as follows:

Grading Period		1	2	3	4
Grade Level	7	Personal Services	Transportation	Communications	Business
	8	Construction	Trade and Industrial	Technology	Professional

The occupations within the families will be selected to meet student needs. Because many of the occupations can be found in more than one area, the teachers and administrators will arbitrarily decide which occupations are to be studied in the selected multi-occupational families. Students should be exposed to as many occupations as possible within the limitations of this program. A selection of occupations which might be studied are as follows.

1. *Personal Service*

Banker
Barbering
Cook/chef
Cosmetology
Fireman
Law Enforcement
Tailoring
Upholstering

2. *Transportation*

Airline Pilot
Dispatcher
Engineer
Navigator
Ship Captain
Steward (ess)
Traffic Agent
Truck Driver

3. *Communication*

Camera Man
Newspaper Reporter
Radio/TV Announcer
Salesman
Telephone Installation
Telephone Lineman
Telephone Operator
Time/space Salesman

4. *Business*

Bank Teller
Bookkeeper
Clerk-Typist
Key Punch Operator
Salesman
Secretary
Stenographer
Store Manager

5. *Construction*

Carpentry
Drywall Installation
Electrical
Heating A/C Installation
Masonry
Metal Working
Plumbing
Landscaping

6. *Trade and Industrial*

Automobile Mechanic
Business Machine Maintenance
Commercial Art
Commercial Photography
Drafting
Graphic Arts
Radio/TV Repair
Welding

7. *Technology*

Aeronautical
Agricultural
Chemical
Civil
Computer
Electronic
Forestry
Medical

8. *Professional*

Accountant
Architect
Banker
Dentist
Engineer
Lawyer
Physician
Teacher

During the first six grading periods in the seventh and eighth grade levels, the occupations below the professional and highly technological are emphasized. During the last two grading periods, technological and professional occupations found in the previously studied multi-occupational families are studied. The methods or techniques for the multi-occupational career orientation model are diagrammatically illustrated in Figure 5.

CAREER EXPLORATION EDUCATION

In the ninth and tenth grade levels, the cluster concept approach is utilized to provide entry level knowledge, skills, and attitudes in a large number of occupations.

According to Nevin Frantz[9], former director of the Cluster Concept Project at the University of Maryland, criteria for the selection of an occupational cluster are as follows: (1) The cluster should include occupations related in the dimensions of duties, materials, finished products, or services performed. (2) The cluster should possess a large breadth of occupations requiring various skills and knowledge. (3) The cluster should consist of occupations requiring not more than a high school education and/or post-secondary education of less than baccalaureate level.

Examples of Occupational clusters to be considered in the ninth and tenth grades are Agricultural, Automobile Mechanics, Business and Office, Construction, Cosmetology, Distributive, Drafting, Electronics, Graphic Arts, Home Economics, Medical Technology, and Metal Fabrication.

The criteria for selecting occupations within the cluster are as

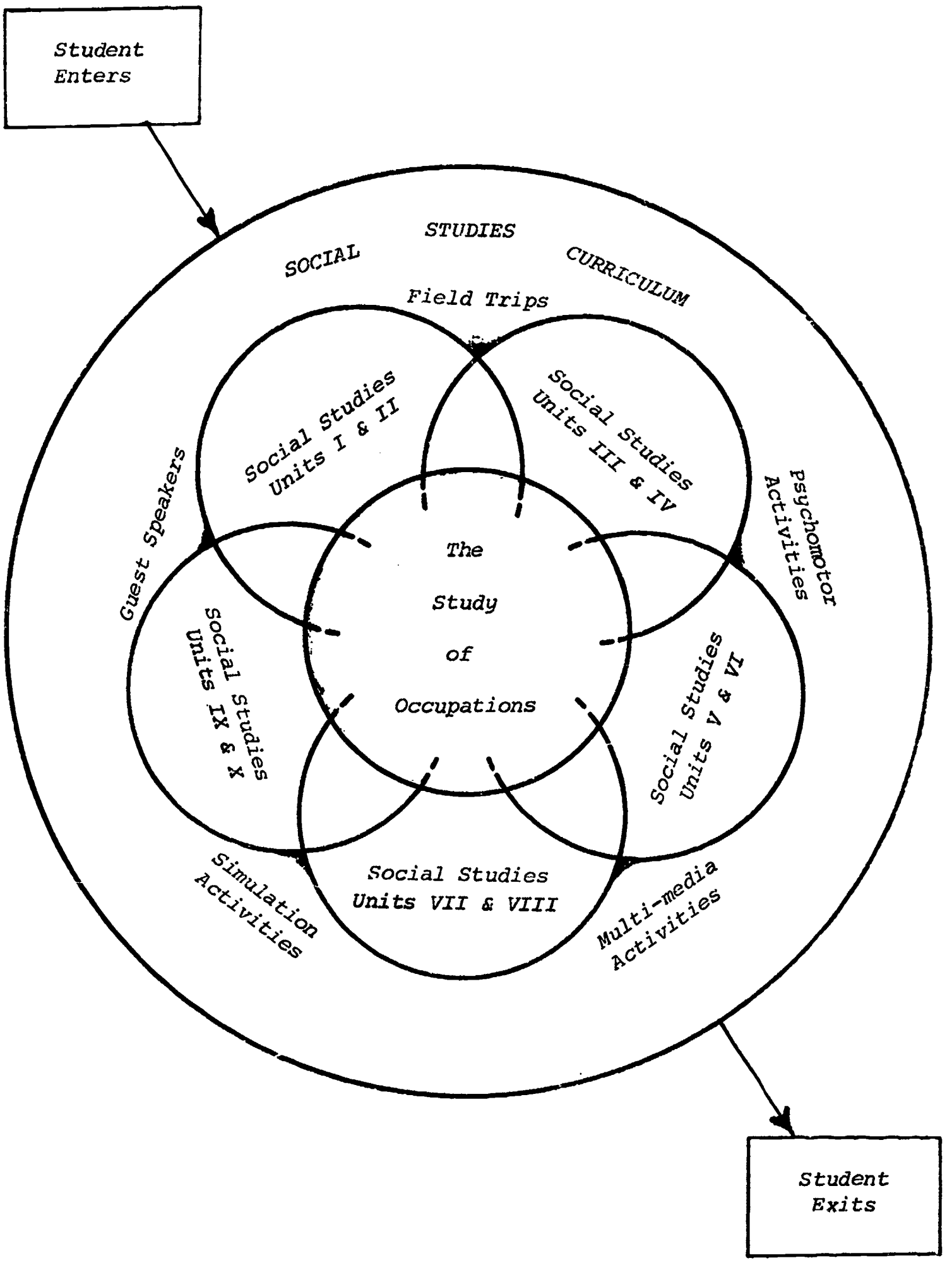

Figure 5. Career Orientation Model.

follows: (1) The occupation should provide good future employment opportunities. (2) The occupation should provide for entry level employment after high school graduation. (3) The occupation should allow for advancement through successful on-the-job-training or additional education. (4) The occupation should be of such a nature that numerous skills and knowledge are necessary for successful performance in the occupation.

The commonalities (elements common to all of the occupations) are taught intermittently in the learning sequence. The introduction of the cluster of occupations should begin with the commonalities and be presented in a group situation. Following the introduction, students are divided into occupations within the cluster. After the student has experienced numerous activities and developed job entry skills, he moves to a second occupation. This rotation procedure is followed until the students have experienced activities in all of the occupations offered in a cluster.

The Cluster Concept Career Exploration Model is diagrammatically illustrated in Figure 6.

CAREER PREPARATORY EDUCATION

Education for a specific occupation is provided at the eleventh and twelfth grade levels through laboratory or cooperative occupational experiences. Through the use of existing data and community and student surveys, programs that meet student, business, and industrial needs are provided.

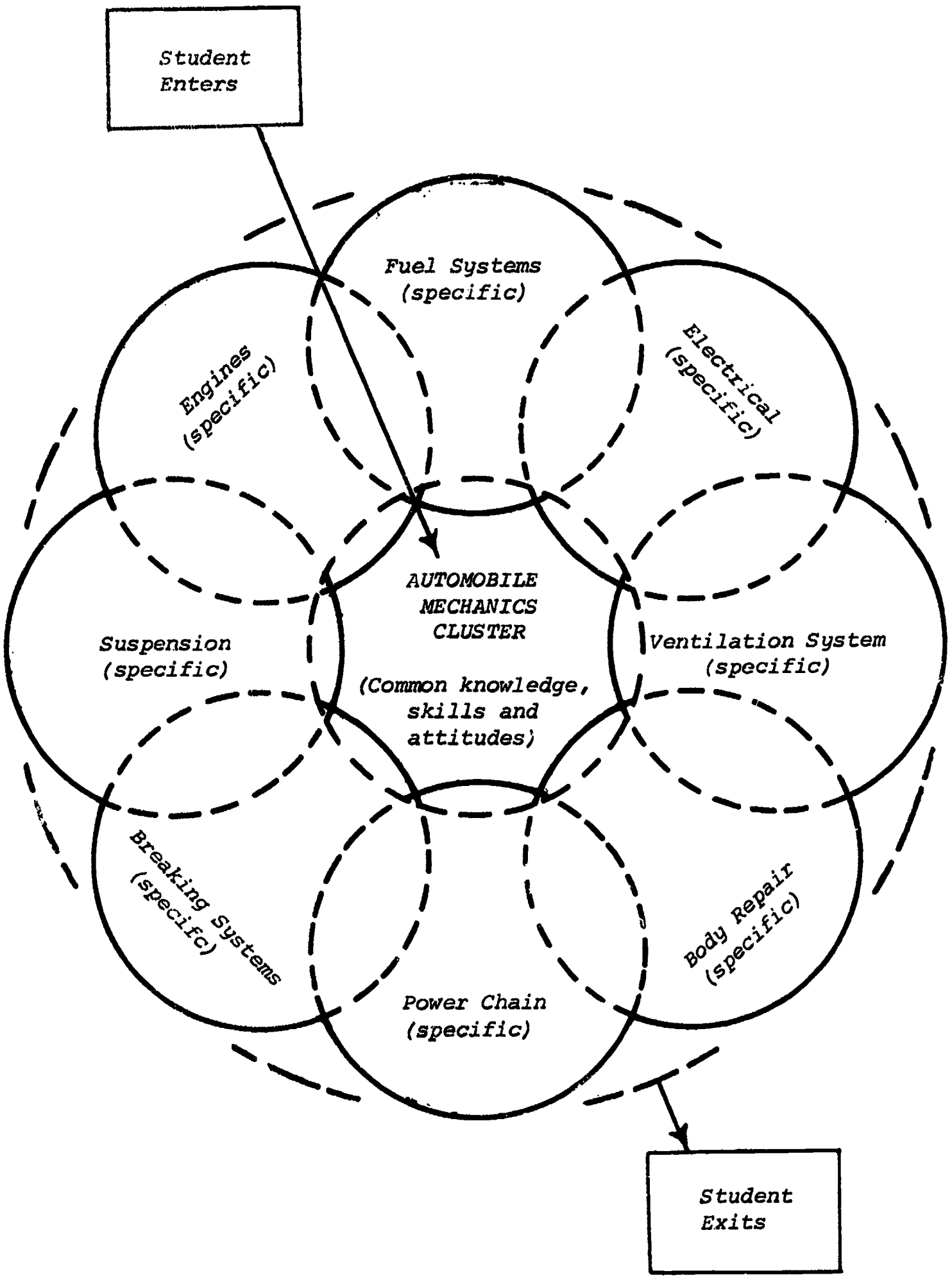

Figure 6. Career Exploration Model.

The objective of career preparatory education is to provide occupational experiences with emphasis on the knowledge, skills, and attitudes necessary for employment and/or employment up-grading. The career preparatory model is diagrammatically illustrated in Fugure 7.

The program involves practical working arrangments between academicians and practioners, teachers and students, and the school and community. In addition to academic courses, the student actively participates in courses geared to meet his career objective. The courses are taught by teachers who have had considerable occupational experience.

Career Preparatory education (laboratory or cooperative) is offered to the student on a two or three hour block each day. The programs are established on a one or two year basis depending on the level of skill necessary to achieve proficiency and the requirements for license by the State.

The following list contains examples of laboratory programs to be considered before implementing the career preparatory phase of the career development program. This list is by no means meant to be a complete catalogue of laboratory programs which might be needed.

1. *Air conditioning and Refrigeration*
2. *Automobile Mechanics*
3. *Automobile Body Repair*
4. *Aviation Mechanics*
5. *Barbering*
6. *Cabinetmaking*
7. *Carpentry*
8. *Chemical Technology*
9. *Civil Technology*
10. *Commercial Art*
11. *Cosmetology*
12. *Data Processing*
13. *Dental Technology*
14. *Diesel Mechanics*
15. *Drafting*
16. *Electrical Appliance Repair*

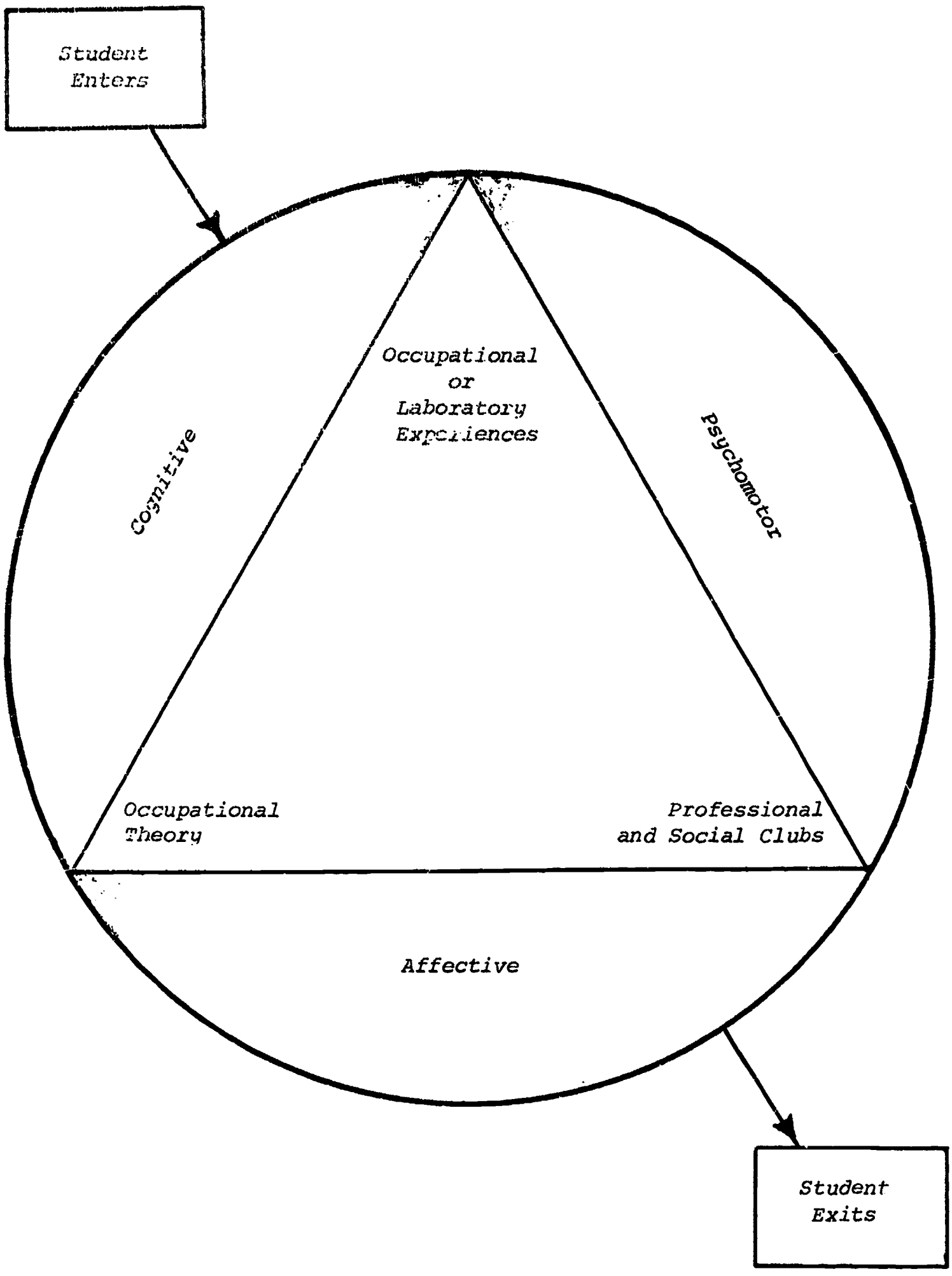

Figure 7. Career Preparatory Model.

17. *Electricity*

18. *Electronics*

19. *Food Service Technology*

20. *Graphic Arts*

21. *Industrial Sewing*

22. *Masonry*

23. *Machining*

24. *Medical Office Practice*

25. *Nursing Assistant*

26. *Office Machine Repair*

27. *Optical Technology*

28. *Photography*

29. *Printing*

30. *Plumbing*

31. *Radio and Television*

32. *Sheet Metal*

33. *Watch Repair*

34. *Welding*

The following list contains examples of cooperative programs to be considered prior to the implementation of the career development program.

1. *Cooperative Agri-business*

2. *Cooperative Business Education*

3. *Cooperative Distributive Education*

4. *Cooperative Home Economics*

5. *Cooperative Industrial Occupations*

The selection of programs to be included in career preparatory education should be based on (1) student interests, needs, and availability, (2) employment oportunities available to the students, (3) business and industrial manpower needs, and (4) the school system's ability to finance the programs in cooperation with State and federal agencies.

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