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CURRICULUM RELEVANCY AND WORK.

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THE DEMANDS OF WORK AND EDUCATION UPON EACH OTHER, THE VALUE OR LACK OF VALUE OF COURSES FOR LEARNERS, AND THE UNDERMOTIVATED LEARNER WHO DOES NOT FIND SIGNIFICANCE IN CURRENT SCHOOL OFFERINGS ARE PROBLEMS FACING PUBLIC EDUCATION. SOME PREVIOUS PLANS TO OVERCOME THESE PROBLEMS HAVE USED (1) THE COMPREHENSIVE HIGH SCHOOL, (2) INDUSTRY-SCHOOL INTERRELATIONS, AND (3) SCHOOL ADAPTION MECHANISMS SUCH AS FIELD TRIPS TO ACTUAL SITUATIONS, REALIA FROM INDUSTRY, CORE CURRICULUMS, AND GUIDANCE. A MERGED SCHOOL AND INDUSTRY DESIGN ESPECIALLY FOR UNDERMOTIVATED YOUTH IS A SUGGESTED SOLUTION. A TRANSFER FROM THE SCHOOL TO THE PLANT LOCALE WOULD CONSTITUTE FULL-TIME EXPERIENCE FOR AN EXTENDED PERIOD, AND TRAINED TEACHERS OF ACADEMIC AND OCCUPATIONAL SUBJECTS WOULD BE PERMANENTLY ASSIGNED TO WORK SITES. THE PLANT OR WORK LOCALE WOULD BECOME THE SCHOOL. TYPICAL SETTINGS WOULD BE INDUSTRIAL PLANTS, SERVICE CENTERS, HOSPITALS, HUMAN WELFARE AGENCIES, BUSINESSES, BANKS, OR DEPARTMENT STORES. IT WOULD BE ESSENTIAL THAT EACH WORK LOCALE BE LARGE SO THAT A WIDE VARIETY OF SKILLS AND LEARNING MIGHT TO FOUND, STUDIED, AND PRACTICED. STEPS IN DEVELOPING SUCH A PROGRAM WOULD BE (1) ANALYZING THE LOCALE AND ITS POTENTIAL FOR GENERATING A CURRICULUM, (2) SURVEYING SPACE, MATERIALS, AND EQUIPMENT USEFUL IN TEACHING, (3) EXAMINING LOGISTICS, LEGAL RESPONSIBILITIES, AND UNION AND MANAGEMENT PROBLEMS, (4) USING AN INDUSTRIAL ARTS EDUCATOR, PHYSICS, LANGUAGE ARTS, AND SOCIAL STUDIES TEACHERS, AND A GUIDANCE SPECIALIST TO WORK WITH PLANT PERSONNEL TO DEVELOP A CURRICULUM, (5) TRAINING TEACHERS, PLANT PERSONNEL, PUPILS, AND PARENTS, AND (6) MAKING THE PLAN OPERATIONAL. ASSUMPTIONS UNDERLYING THE PROPOSAL AND THE MAJOR ISSUES TO BE ANALYZED IN IMPLEMENTING A SYSTEMS APPROACH ARE INCLUDED. (EM)

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CURRICULUM RELEVANCY AND WORK

"...While there is no guaranty that an education which uses science and employs the controlled process of industry as a regular part of its equipment will succeed, there is every assurance that an educational practice which sets science and industry in opposition to its ideal of culture will fail."

- John Dewey, 1929

Mortimer Kreuter and Lawrence J. Barnett

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CURRICULUM RELEVANCY AND WORK

Mortimer Kreuter* and Lawrence J. Barnett

The Problem.

This paper attempts to answer the problems: What curriculum can be most effective for vocational education and how can it be related to the academic program for further education or re-training?

That this conference can ask these questions is to its credit and indicates first, a search for an effective vocational curriculum is possible and needed; and second, the relationship of the public schools to the continuing education of learners of all ages is a recognized responsibility.

We believe that three major problems face public education with respect to vocational learning:

1. The relative demands of work and education upon each other.
2. The value of courses in terms of educationally useful benefits to the learner.
3. The under-motivated learner who does not or cannot find significance in current school offerings.

The three problems we have set forth above are not novel in their presentation and we do not intend that they be considered as re-discoveries of the obvious. A number of actions have been taken in the past to remedy the conditions emanating from those problems. Among these actions have been:

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1. The Comprehensive High School Plan.

For the past number of years there has been serious discussion of ways to insure the equivalency of academic and vocational courses. As a consequence, the comprehensive high school plan has been evolved. The major strengths of this plan are apparent and laudable. It is clear that greater potential for both vertical and horizontal articulation is present and that the separatist stigma devolving from physical segregation of vocational and academic students is ameliorated in this type of setting.

And yet, as we examine the overhaul of the secondary schools that would take place under this plan, we are struck by the fact that the regular high school organization would be used. Academic and vocational instructors would share the same building for the same six hours and 20 minutes a day for the same 200-day school year inside a regular Carnegie-unit scheme. The specification of the comprehensive high school does not seem to include innovative structural, organizational or substantive developments to meet the measure of the task at hand.

2. Industry-School Inter-Relationships.

The need for school-industry cooperation to plan and manage a vocational education program has been recognized for many years. Indeed, the very existence of this conference is owed to the Advisory Board for Vocational and Extension Education. The career of the Advisory Board shows how concerned have been the representatives of the working world about the schools. Other examples are available from the various industrial and occupational groups

which have struggled and legislated to get the specialized vocational schools established and which continue to assist in the induction and propulsion of vocational school graduates into their organizational frameworks.

And yet, it is constantly suggested that the work world does not utilize significantly the great numbers of pupils the vocational schools turn out. The equipment is assertedly inadequate, antiquated, too costly; the teachers have lost touch with their subjects; the pupils are not prepared; their literacy and number skills are not up to minimum standards. These criticisms are not ours, but employers, researchers, foundations.

3. School Adaptation Mechanisms.

Over the years, the schools teaching vocational courses have innovated a number of teaching adaptations that have been very useful, indeed far ahead of their times. These adaptations have included:

a. Field Trips to Actual Situations. This adaptive device has enriched and stimulated pupil interest and learning. Unfortunately, the device has become cumbersome and mechanistic because the visited work site has not prepared a comprehensive tour; the trip has not become integral to the instruction; it is too short-lived to influence permanent learning; and, perhaps most damaging, it too dramatically reveals to students the incredible gap between their classroom equipment and the large-scale actuality of the real situation.

b. Realia from Industry. Vocational and technical educators recognize that their subject matter requires real not illusionary equipment. Accordingly, they buy real equipment for pupils to learn on. Also, they accept gratefully as donations machines, engines, printing presses, and so on from industry which have no further real use but which are considered good for "training." Training for what, one might ask, to work on equipment that is no longer used by the skill area learners are being prepared for. Moreover it would seem fiscally impossible to maintain currency with school purchased equipment, considering the rate at which change occurs in the design and function of these implements.

c. Core Curricula. For decades, by exhorting and evangelizing their academic counterparts, occupational educators have attempted to find the fusible elements of practical and theoretical subjects. The resultant core curricula or unitary treatments of math and trade; science and a skill; English and a usage have appeared. Unfortunately, schoolmen have not been able to avoid the final confrontation -- the applied subject can only flow from the academic: that math is math whether it be used in the department store or on advanced calculators seems too obvious to be mentioned. And yet, in the name of core subject matter, there are still being ground out by well-intentioned educators related math; related physics; related everything course outlines. How much these related subjects captivate learners and fix their range of abilities is hard to estimate. Surely, if the related subject advocates were correct in their assertions that their courses were viable than the traditional ones, the resultant learning would be great. One has

only to examine subject matter achievement levels in vocational schools to come to rapid conclusions to the contrary.

d. Guidance. Occupational educators have long experience in meeting the needs of their learners. Very often because they are recognizable as practitioners of the real world, students emulate trade teachers as role-models. Other school personnel such as the formally trained guidance counsellors, generally speaking, do not have the experiential preparation, time, tools, or sometimes the inclination to provide really useful social-occupational understanding to the under-motivated pupil. At the same time, occupational instructors are able to bring their classrooms a sense of subject matter reality and immediacy. Yet, because they are teaching from a specific experience gained in their own apprenticeship years, they are limited in assisting their students to acquire the broad generalizable skills needed for the five, six, or seven job changes that the long range employment forecasts predict for them.

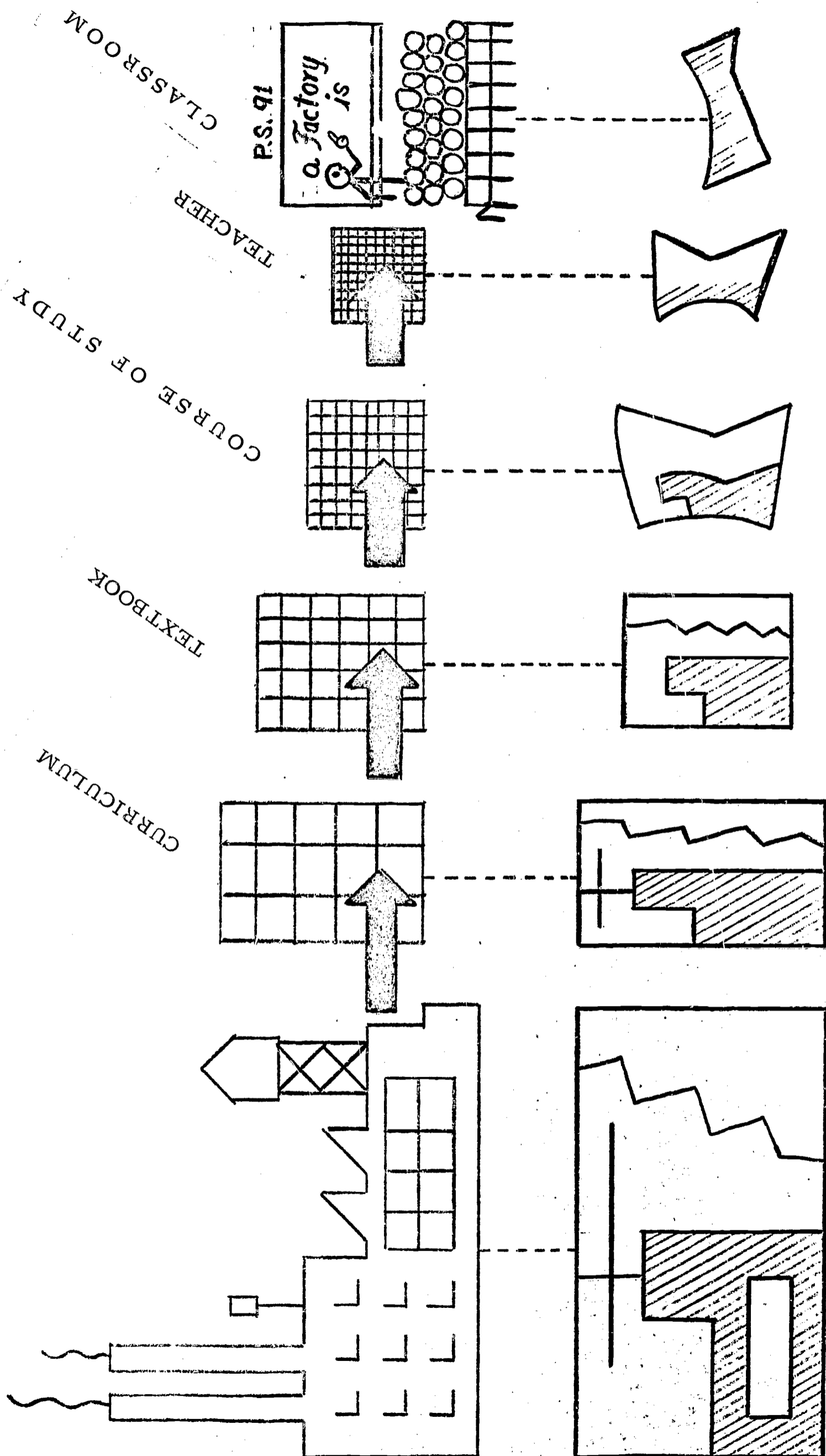
The Under-Motivated Pupil:

In addition to the above actions taken by schools to cope with the needs of their pupils, there remains the great motivational gap between the schools and its clientele. The School population of under-motivated youth is very large as the schools know only too well and as they are required by compulsory education laws to cope with. What kind of population are we talking about?

We are talking about the youth who cannot delay his adult gratifications in the school-centered present until a socially-approved future arrives. He

is the kind of youth who responds to street and mass media cultures which impel him when coupled with poverty and minority-group status to a disastrous preoccupation with everydayness. This demand to live here and now and how and when he can contravenes the school's insistence that he delay adult appetites, even though the life he sees around him convinces him of the urgencies of the present. The under-motivated youth rejects academic learning because it is remote, abstract, distorted. His vocational learning suffers similarly as a result. The schools negotiate a hundred varieties of courses to engage his attention; their sequences only confirm his sense of their inadequacy to grope with his brand of reality. He is either labeled general student and given watered-down applied versions of the college-prep curriculum or diagnosed as a candidate for trade instruction with which he is unable to grapple because of academic deficiencies. The under-motivated adolescent's present-mindedness interferes with his ability to learn school subjects as they are now given, whether watered-down, modified, cored, paired, concretized, or vocationalized. Current efforts, as ambitious as they may be, to renovate the existing teaching-learning modalities of and for the under-motivated pupil are foredoomed because they do not come to grips with his unwillingness or inability to grasp the relevancy of acquiring knowledge and skills in the present for utilization in the future. What the schools are saying, in effect, is that it's real out there in the world but we have no way of putting you into that picture until later on, to an audience that has exceptional difficulty in relating to the world as it is. Therefore, the curriculum to be relevant to the life needs of this segment of the city's

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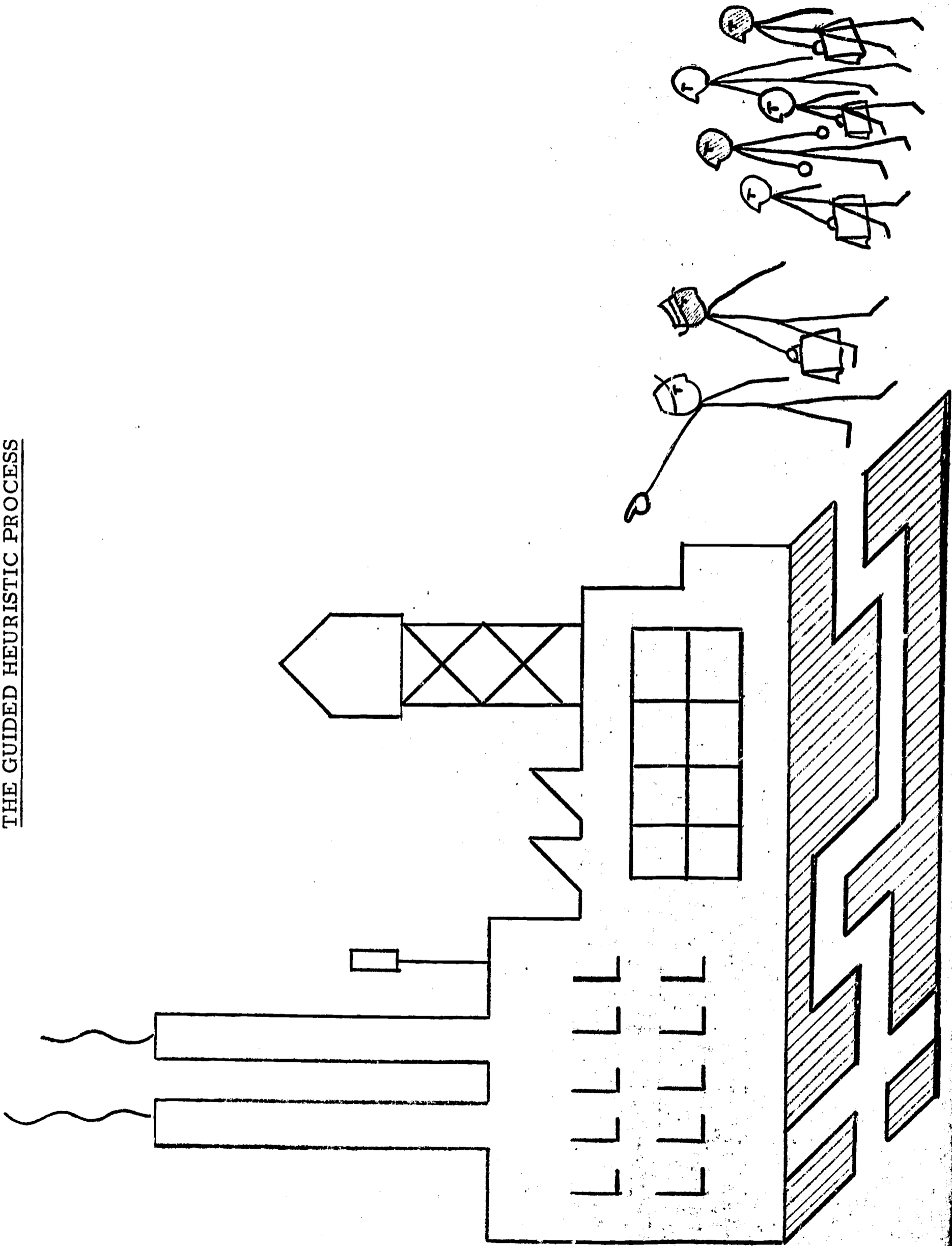
school population, ought to be positioned in an area where educational achievement is manifestly useful in gaining money, power, and status. In order to accomplish this good, we seek to construct an educational experience with relevancy to work, while recognizing that other educational planners will concern themselves with other life requirements such as avocational and personal pursuits.

The Proposed Solutions:

Our basic notion is that a merged school and industry educational design should be found and made available for under-motivated youths. This plan would make the schools go to work literally and figuratively. Students and teachers together would leap the relevancy gap as the schools and industry relocate the teaching-learning situation from the remote classroom to the urgency and vitality of the plant itself. This departure for the plant locale would constitute full-time experience for an extended period, and trained teachers of academic and occupational subjects would be permanently assigned to work sites. In Short, the plant or work locale would become the school. The schools and industry would jointly conduct a massive search for the curriculum which we believe is submerged in each institution. To assist the schools to prepare youth for the world of work, that world would do more than advise and criticize the schools - it would educate the schools, the learners, and itself. The term industry here must be construed as meaning such work as industrial plants, service centers, hospitals, human welfare agencies,

CLOSING THE RELEVANCY GAP

THE GUIDED HEURISTIC PROCESS



businesses, banks, department stores. It is essential that each work area be of large-scale dimensions so that a wide variety of skills and learning may be found, studied, and practiced there.

In our search for such a work area, we have examined the operations of a huge communications products plant in the metropolitan region. This plant requires constant replenishment of high-school graduate first-level workers. It employs 14,000 males and females and has sufficient career lines for workers to make a lifetime occupation in an expanding market which will not be affected seriously by automation for the next decade at least. The corporation approached the Center for Urban Education because it is intensely interested in continuing to recruit and employ young high school graduates but is encountering increasing difficulty in obtaining them from the inner city schools.

This plant would be brought into a joint educational venture in the following manner:

1. Field Analysis. A field analysis of this plant would be undertaken for the purpose of determining the potential for generating curriculum from the myriad social, scientific, mathematical, and economic inter-related activities ongoing in this situation. Piecing out these elements into resource units involving personnel, processes, and equipment integral to the operation of the plant would be the central concern of this endeavor--this work would be carried on by a team of appropriate representatives from both the plant and the schools.

2. Work Site Characteristics. The team would also be required to survey and make recommendations as to the space, materials, and equipment which could be utilized for teaching; as well to determine access to the personal comfort and feeding needs of learners and teachers while in the plant.

3. Logistics. An additional team of school and work site fiscal and administrative specialists would be required to examine logistical questions. Transportation and safety provisions would have to be examined. A survey of the legal responsibilities of the schools and the plant would have to be made. Union and management problems would need to be discussed and resolved.

4. Curriculum Development. As indicated above, a search for the curriculum elements believed to be hidden in the plant's operations but classified as recruitment and selection; orientation; in-service training; upgrading and promotion would have to be ferreted out. In order to carry on this phase of the project, it is suggested that careful attention be given to the selection of the curriculum team to be assigned. The schools would probably wish to assign an industrial arts educator with specialization in communications; a physics teacher; a language arts teacher with reading teaching skills; a social studies teacher; and a guidance specialist. The nature of the questions raised by the team of educators would determine to a large extent the kind and variety of plant personnel assigned to work with them. We suggest that a fluid reference group consisting of a wide variety of skilled factory people would be most productive.

An orientation period would now take place consisting of an introduction of high school objectives to the plant representatives by the teaching personnel. Similarly, the plant personnel would orient the teachers to plant objectives and procedures at the level of beginning workers.

A living-in period would next take place whereby the high school personnel would be assigned to the plant for the purpose of determining the curriculum elements present in the communications products field.

The outcome would be courses of study which would deal with social studies, language arts, physical science, and working skills that appear to be utilized by the plant. It is expected that these courses of study would include the scope of those educational elements which would best be taught by school personnel and those best left in the hands of plant personnel.

5. Training. A period of personnel training would now be undertaken. The personnel to be trained would be: (a) regular teachers; (b) plant personnel; (c) pupils and parents.

The regular teachers would be taught at the plant, according to the material provided by the curriculum outlines developed beforehand. The social studies teachers might take up such topics as labor-management problems, salary schedules, rights and duties of workers, the profit motive of industry, consumership, merchandising. Other topics would surely reveal themselves to language arts and science teachers.

The plant personnel would be instructed in how to teach assigned teaching tasks consistent with their specialities. Troubleshooters, bench-workers, examiners, quality-control inspectors, and other personnel in both production and administration would be assigned to give instruction in their expert fields.

The pupils and parents would be prepared by the school for this new type of instruction. Obviously, it would be essential to teach different kinds of pupil skills, such as how to ask questions of workers, how to avoid interference with production, for the learning amenities in the plant would be demonstrably different from pupil behavior in the regular school. One can only conjecture at how different might be pupil behavior in an adult world which says "if you want to be considered young men and women, act that way."

6. Operational Phase. The operational phase would take place after all the other stages had been examined and clarified. This phase would consist of determining the length of the exposure to the plant curriculum, and the level of pupils to be assigned; examining the logistical problem, assigning teaching staff, and setting forth reporting procedures.

a. Length of the Program. While it is difficult to predict how long the program would be, the writers have speculated on a six-week period. This arrangement permits six pupil groups to go through the school-industry educational program within a school year and allows for vacations and regular scheduled school time for traditional testing and other subjects. It is suggested that this tentative time period of six weeks is a test module

suitable for general educational goals and purposes. For those students who at some later time, perhaps the 11th grade, are apt to become involved in specific occupational training, a longer block of time is suggested. We would at this point posit a six month to one year in-plant training and educational experience for students so motivated.

b. Class Size and Pupil Selection. In the initial phases, the pupils would be selected at the ninth grade because it is at the end of that grade that many dropouts occur. As mentioned above, a further period of exposure for those with a special occupational interest would occur at a later stage in secondary education. The class size would be limited to fewer than 20 until experience had indicated an optimum figure.

c. The Logistical Problem. Selected pupils would report to a convenient pick-up point to board a bus to the plant. Teachers, of course, would report directly to work site, as though going to their schools. One teacher would be assigned permanently to the plant to handle the transportation, safety, feeding, and coordinating problems. Pupils and teachers would leave together at the end of the day.

d. Teaching Staff. A careful preparation period should precede the assignment of teachers and supervisors. A much greater involvement of teachers as decision-makers and manipulators of their professional actions is foreseen by this arrangement.

e. Reporting Procedures. An intensive reporting will be required of this program to comply with state educational law, plant regulations, and

pupil safety. In addition, a careful research design will be needed to determine the effects of the curriculum and the changed locale on the pupils, teachers, plant personnel, and school procedures.

Some Questions About the Program

We have suggested that current curriculum and vocational education are not efficacious with under-motivated adolescents. Furthermore, we have suggested that both school and industry invent a curriculum in which both sectors participate in teaching academic and vocational learning. We want to put the schools where the work action is. This proposal carries difficulties with it. A question might now be asked - and rightfully so - as to why industry, health, welfare, or government agencies should want to engage in an educational enterprise which could be upsetting to their own routines and purposes: We would respond that:

1. The survival of the city, in which large work area real estate and property investments exist, depends inevitably on how social institutions work cooperatively. Each work area depends on the schools for potential workers; each has much to teach the schools. More efficient induction of entry-level workers would be effected.

2. Each work area has certain educational elements for which it could take the responsibility of teaching, rather than leaving it solely to the schools. Thus, duplication of educational services could be avoided and costs shared.

3. Work sectors could be compensated for the use of space, personnel, services, and materials. It is certainly no secret that education is becoming big industry and that already youth corps and other poverty programs are being run on a contract basis by business organizations.

4. Work areas can learn much from planned transactions with school-learning specialists on how to organize for the more traditionally educational elements of their programs such as community relations, in-service training, testing, and reporting.

Assumptions Underlying this Proposal

The writers have suggested the under-motivated pupil wants relevancy in his negotiations with the school. We have suggested that (1) the school's 9th grade teachers and pupils move for a six-week period to industrial or technical or human welfare service or government sites; (2) out there, representative organizations would provide materiel and personnel who are in daily real production of goods and/or services; (3) the immediacy of pupil and teacher interaction with these phenomena would overcome the motivational lag of under-motivated learners. Obviously, we have made a number of assumptions:

1. The under-motivated youth is attuned to the realities of earning a living in the real world and would respond readily to role-models available in the world of work and would become more motivated to learn academic material which is saleable in that section.

2. Trained teachers are the best prepared personnel to guide learners through the work experience as curriculum by piecing out and recombining the core learning elements of the field situation.

3. The field setting provides an appropriate situation in which to teach reality and necessity about work-linked skills, the academic as well as the vocational, at the 9th year of high school and that carry-over to remain in school would result.

4. Certain elements of on-the-job training: cooperative education; vocational skill training; and the field trip ought to be continued in the later high school years.

5. The industrial arts teacher is the educator best equipped to coordinate the various phases of school-industry joint educational program because his training has spanned both academic and industrial concerns and as a consequence he has available to him the tools of communication and understanding appropriate to a merger of these two worlds.

If we are correct in our guesses about the proposed merger of school and industry to effectuate a new curriculum for under-motivated New York City youth, a systems approach would be required. Among the major issues to be analyzed would be:

1. A redesign of the current curriculum based upon a research of both the industrial and educational sectors with respect to both unique and/or over-lapping subject matter.

2. A restructuring of fiscal arrangements whereby the industry and educational sectors are reimbursed for instructional and overhead costs according to the role each assumes in the education of youth.

3. An adaptation of work facilities to accept learners as part of an operational scheme which is educational as well as production- or service-minded.

4. A retraining of both work and school personnel to assume new duties imposed by the concept.

5. A retraining of learners to prepare for a school-work experience jointly operated by two institutions.

6. An examination of pupil transportation for transfer from home to school and school to work sites.

7. A creation of job duties based upon the concept of joint responsibility.

8. A re-evaluation of course outlines, aims, credit load, and teaching sequences.

9. An assessment of new supervisory techniques needed in both sectors.

10. An examination of the legal bases for instructing pupils in other than traditional locales.

11. A development of instructional materials based upon the merger concept.

We have presented a series of propositions with implications for action which we believe to be commensurate with and responsive to the wisdom and perception of John Dewey's admonition which appears on the title page of this paper -- the power of this utterance we feel will bear its repetition as a closing statement:-

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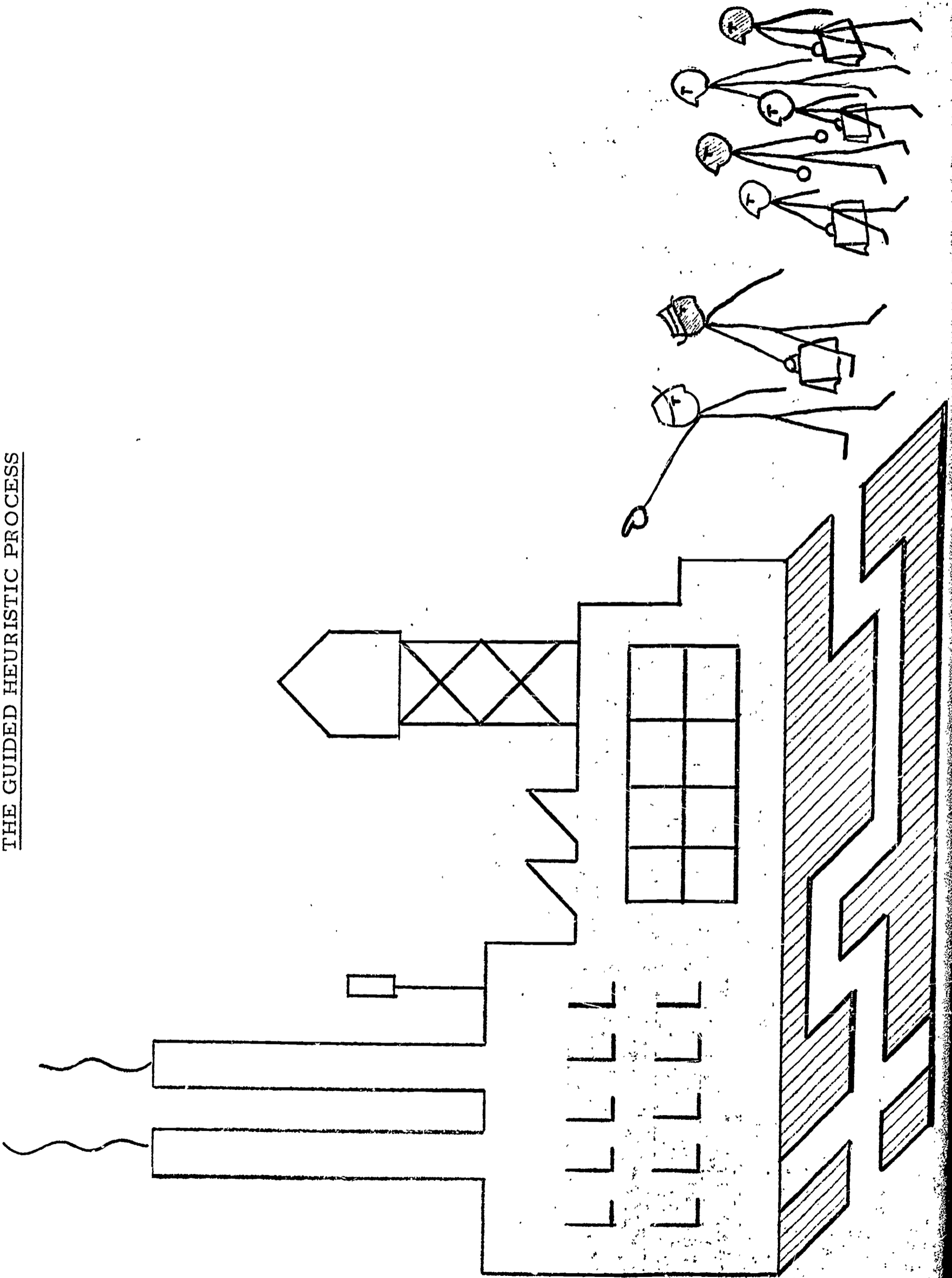
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Some Questions About the Program

We have suggested that current curriculum and vocational education are not efficacious with under-motivated adolescents. Furthermore, we have suggested that both school and industry invent a curriculum in which both sectors participate in teaching academic and vocational learning. We want to put the schools where the work action is. This proposal carries difficulties with it. A question might now be asked - and rightfully so - as to why industry, health, welfare, or government agencies should want to engage in an educational enterprise which could be upsetting to their own routines and purposes: We would respond that:

1. The survival of the city, in which large work area real estate and property investments exist, depends inevitably on how social institutions work cooperatively. Each work area depends on the schools for potential workers; each has much to teach the schools. More efficient induction of entry-level workers would be effected.

2. Each work area has certain educational elements for which it could take the responsibility of teaching, rather than leaving it solely to the schools. Thus, duplication of educational services could be avoided and costs shared.

3. Work sectors could be compensated for the use of space, personnel, services, and materials. It is certainly no secret that education is becoming big industry and that already youth corps and other poverty programs are being run on a contract basis by business organizations.

4. Work areas can learn much from planned transactions with school-learning specialists on how to organize for the more traditionally educational elements of their programs such as community relations, in-service training, testing, and reporting.

Assumptions Underlying this Proposal

The writers have suggested the under-motivated pupil wants relevancy in his negotiations with the school. We have suggested that (1) the school's 9th grade teachers and pupils move for a six-week period to industrial or technical or human welfare service or government sites; (2) out there, representative organizations would provide materiel and personnel who are in daily real production of goods and/or services; (3) the immediacy of pupil and teacher interaction with these phenomena would overcome the motivational lag of under-motivated learners. Obviously, we have made a number of assumptions:

1. The under-motivated youth is attuned to the realities of earning a living in the real world and would respond readily to role-models available in the world of work and would become more motivated to learn academic material which is saleable in that section.

2. Trained teachers are the best prepared personnel to guide learners through the work experience as curriculum by piecing out and recombining the core learning elements of the field situation.

3. The field setting provides an appropriate situation in which to teach reality and necessity about work-linked skills, the academic as well as the vocational, at the 9th year of high school and that carry-over to remain in school would result.

4. Certain elements of on-the-job training: cooperative education; vocational skill training; and the field trip ought to be continued in the later high school years.

5. The industrial arts teacher is the educator best equipped to coordinate the various phases of school-industry joint educational program because his training has spanned both academic and industrial concerns and as a consequence he has available to him the tools of communication and understanding appropriate to a merger of these two worlds.

If we are correct in our guesses about the proposed merger of school and industry to effectuate a new curriculum for under-motivated New York City youth, a systems approach would be required. Among the major issues to be analyzed would be:

1. A redesign of the current curriculum based upon a research of both the industrial and educational sectors with respect to both unique and/or over-lapping subject matter.

2. A restructuring of fiscal arrangements whereby the industry and educational sectors are reimbursed for instructional and overhead costs according to the role each assumes in the education of youth.
3. An adaptation of work facilities to accept learners as part of an operational scheme which is educational as well as production- or service-minded.
4. A retraining of both work and school personnel to assume new duties imposed by the concept.
5. A retraining of learners to prepare for a school-work experience jointly operated by two institutions.
6. An examination of pupil transportation for transfer from home to school and school to work sites.
7. A creation of job duties based upon the concept of joint responsibility.
8. A re-evaluation of course outlines, aims, credit load, and teaching sequences.
9. An assessment of new supervisory techniques needed in both sectors.
10. An examination of the legal bases for instructing pupils in other than traditional locales.
11. A development of instructional materials based upon the merger concept.

We have presented a series of propositions with implications for action which we believe to be commensurate with and responsive to the wisdom and perception of John Dewey's admonition which appears on the title page of this paper -- the power of this utterance we feel will bear its repetition as a closing statement:-

"...While there is no guaranty that an education which uses science and employs the controlled process of industry as a regular part of its equipment will succeed, there is every assurance that an educational practice which sets science and industry in opposition to its ideal of culture will fail."