GUIDANCE VALUES OF INDUSTRIAL ARTS IN SECONDARY EDUCATION

by

WAYNE STEPHEN MARTIN

A THESIS

submitted to

OREGON STATE COLLEGE

in partial fulfillment of
the requirements for the
degree of

DOCTOR OF EDUCATION

June 1950
APPROVED: Redacted for Privacy

Professor of Education
In Charge of Major Redacted for Privacy

Head of Department of Education Redacted for Privacy

Chairman of School Graduate Committee Redacted for Privacy

Dean of Graduate School

Thesis Presented April 27, 1950
Typed by Frances F. Martin
ACKNOWLEDGMENTS

The writer wishes to express his sincere appreciation to Dr. Franklin R. Zeran for his assistance and encouragement in the development of this study.

Grateful acknowledgment is also made to Dr. Riley J. Clinton, Dr. Herbert R. Laslett, Dr. James W. Sherburne and Professor George B. Cox for suggestions and constructive criticism.

Sincere appreciation is expressed to my wife for her continuous encouragement and assistance.
# TABLE OF CONTENTS

## Chapter

### I. INTRODUCTION

The Purpose of the Study 6  
Definition of terms 7  
Limitations of the Study 9  
Sources of Data 9

### II. BACKGROUND OF INDUSTRIAL ARTS IN ITS RELATION TO THE CONCEPT OF GUIDANCE

Industrial Education in Ancient and Medieval History 11  
Industrial Education during the Renaissance and Reformation 13  
The Eighteenth Century 16  
The Early Nineteenth Century 18  
Industrial Education during the Latter Part of the Nineteenth Century 18  
Industrial Education in the United States 20

### III. STATEMENT OF THE PROBLEM

Classification of Guidance Activities in Industrial Arts for the Purpose of this Study 33  
Learning about the Pupil 34  
Pupil Adjustment 37  
Informational Services 41  
Post-Secondary School Adjustment 43

### IV. INVESTIGATIONS AND FINDINGS

Approaches to the Study 48  
Procedure in Following Each Avenue of Approach 49  
The Questionnaire 53  
Distribution of the Questionnaire 54  
Presentation of the Findings 57
Chapter

IV. INVESTIGATIONS AND FINDINGS (CONT.)

Personnel Records in the Industrial-Arts Department

- Home Background
- Health Status
- Statements of Unusual Abilities
- Statements of Unusual Talents
- Statement of Leisure-Time Interests
- Standardized Test Records
- Interest Inventory Records
- Informal Shop-Test Records
- Ratings of Skills
- Anecdotes of Shop Incidents
- Shop Achievement Ratings
- Records of Projects Completed
- Units of Work Covered
- Quality of Work
- Experience Areas Explored
- Record of Mechanical Competence in Areas Explored
- Work Experiences Outside School
- Ratings and Anecdotes of Personality Qualities
- Ratings and Anecdotes of Social Qualities
- Ratings and Anecdotes of Emotional Qualities
- Information on Other School Activities
- Occupational Fields Discussed
- Statements of Educational Plans
- Statements of Vocational Plans
- Interview Notes or Summaries

Summary of Personnel Records in the Industrial Arts Department

The Standardized Test Program in the Industrial-Arts Department

- The General Intelligence Test
- Mechanical Aptitudes Test
- Other Aptitudes Tests
- Vocational Interest Inventory
- General Interest Inventories
- Personality Rating
- Achievement Tests
- Other Tests

Summary of the Standardized Test Program in the Industrial-Arts Department
### IV. INVESTIGATIONS AND FINDINGS (CONT.)

Problems of Pupil Assistance in the Industrial-Arts Department

- Referral to Medical Service
- Referral to Psycho-Educational Clinics
- Referral to Social Agencies
- Referral to Local Agencies for information
- Referral to Other School Agencies
- Referral to Other Teachers
- Provision of Service and Information for Pupils Referred to Your Shop

Summary of Problems of Pupil Assistance in the Industrial-Arts Department

---

The Use of Interviews in the Industrial-Arts Department

- Current Shop Work
- Future Educational and Vocational Plans
- Social Adjustment
- Home Life
- Emotional Adjustment
- Understanding of Individual Ratings
- Recognition of Abilities
- Recognition of Limitations
- Is An Interview Required of Each Pupil?
- Is the Interview by Appointment?
- Is Special Time Provided in Your Schedule for Interviews?
- Do You Have a Private Place to Carry On the Interview?

Summary of the Use of Pupil Interviews in the Industrial-Arts Department

---

Development of the Home-School Relationship by the Industrial-Arts Department

- Parent Interviews
- Home Visits
- Parent Visits to the School Shop
- The Other Methods of Establishing Desirable Home-School Relationship

Summary of the Development of the Home-School Relationship by the Industrial-Arts Dept.
### IV. INVESTIGATIONS AND FINDINGS (CONT.)

<table>
<thead>
<tr>
<th>Special Provision for the Adjustment of the Exceptional Pupil in the Industrial-Arts Department</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Slow Learner</td>
<td>156</td>
</tr>
<tr>
<td>The Fast Learner</td>
<td>160</td>
</tr>
<tr>
<td>The Withdrawn Personality</td>
<td>161</td>
</tr>
<tr>
<td>The Aggressive Personality</td>
<td>163</td>
</tr>
<tr>
<td>The Disciplinary Problem</td>
<td>164</td>
</tr>
<tr>
<td>Summary of Special Provision for the Adjustment of the Exceptional Pupil in the Industrial-Arts Department</td>
<td>165</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leisure-Time Activities in the Industrial-Arts Department</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is Part of the Shop Organised for Recreational Handicrafts?</td>
<td>167</td>
</tr>
<tr>
<td>Are Pupils Instructed in the Value of Hobbies</td>
<td>169</td>
</tr>
<tr>
<td>Recreational Aspects of Mechanical activities</td>
<td>172</td>
</tr>
<tr>
<td>Are Hobby Clubs Used?</td>
<td>173</td>
</tr>
<tr>
<td>Are Pupils Permitted to Choose Work They Enjoy</td>
<td>174</td>
</tr>
<tr>
<td>Do You Help Pupils to Plan Home Workshops?</td>
<td>175</td>
</tr>
<tr>
<td>Do You Teach Simple Home Mechanics</td>
<td>176</td>
</tr>
<tr>
<td>Summary of Leisure-Time Activities in the Industrial-Arts Department</td>
<td>178</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Role of the Industrial-Arts Department in the Presentation of Occupational Information</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate Selection of Occupational Books</td>
<td>180</td>
</tr>
<tr>
<td>The Dictionary of Occupational Titles</td>
<td>184</td>
</tr>
<tr>
<td>Occupational Briefs, Monographs, Pamphlets</td>
<td>188</td>
</tr>
<tr>
<td>Film Strips and Motion Pictures of Occupations</td>
<td>189</td>
</tr>
<tr>
<td>Pupil Visits to Local Occupational Activities</td>
<td>189</td>
</tr>
<tr>
<td>Community Occupational Survey</td>
<td>190</td>
</tr>
<tr>
<td>Study of Employment Trends</td>
<td>191</td>
</tr>
<tr>
<td>Guest Speakers Discussing Occupational Fields</td>
<td>192</td>
</tr>
<tr>
<td></td>
<td>193</td>
</tr>
</tbody>
</table>
## IV. INVESTIGATIONS AND FINDINGS (CONT.)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Role of the Industrial-Arts Department in the Presentation of Occupational Information (Cont.)</td>
<td></td>
</tr>
<tr>
<td>Study of Entry Occupations</td>
<td>194</td>
</tr>
<tr>
<td>Emphasis on Occupations Considered by Pupils</td>
<td>195</td>
</tr>
<tr>
<td>Instructions on Sources of Occupational Information</td>
<td>196</td>
</tr>
<tr>
<td>Methods of Preparing Job Analyses</td>
<td>197</td>
</tr>
<tr>
<td>Instructions on Use of Job Analyses</td>
<td>198</td>
</tr>
<tr>
<td>Shop Clubs to Study Careers</td>
<td>198</td>
</tr>
<tr>
<td>Information on Opportunities for Vocational Training</td>
<td>200</td>
</tr>
<tr>
<td>Rating Personality from the Employer’s Viewpoint</td>
<td>201</td>
</tr>
<tr>
<td>Is Your Occupational Information Limited to Those Experience Areas Explored in the Shop?</td>
<td>202</td>
</tr>
<tr>
<td>Summary of the Role of the Industrial-Arts Department in the Presentation of Occupational Information</td>
<td>203</td>
</tr>
<tr>
<td>The Role of the Industrial-Arts Department in the Presentation of Educational Information</td>
<td></td>
</tr>
<tr>
<td>Information about Curricular Offerings in School</td>
<td>204</td>
</tr>
<tr>
<td>Information about Co-Curricular Offerings in School</td>
<td>208</td>
</tr>
<tr>
<td>Scholarships and Their Requirements</td>
<td>208</td>
</tr>
<tr>
<td>Entrance Requirements to Colleges</td>
<td>210</td>
</tr>
<tr>
<td>Entrance Requirements to Technical or Trade Schools</td>
<td>211</td>
</tr>
<tr>
<td>Entrance Requirements for Apprenticeship Training</td>
<td>212</td>
</tr>
<tr>
<td>Summary of the Role of the Industrial-Arts Department in the Presentation of Educational Information</td>
<td>213</td>
</tr>
<tr>
<td>The Role of the Industrial-Arts Department in the Presentation of Educational Information</td>
<td>214</td>
</tr>
<tr>
<td>Information about Curricular Offerings in School</td>
<td>215</td>
</tr>
<tr>
<td>Information about Co-Curricular Offerings in School</td>
<td>216</td>
</tr>
<tr>
<td>Scholarships and Their Requirements</td>
<td>217</td>
</tr>
<tr>
<td>Entrance Requirements to Colleges</td>
<td>218</td>
</tr>
<tr>
<td>Entrance Requirements to Technical or Trade Schools</td>
<td>219</td>
</tr>
<tr>
<td>Entrance Requirements for Apprenticeship Training</td>
<td>220</td>
</tr>
<tr>
<td>Summary of the Role of the Industrial-Arts Department in the Presentation of Educational Information</td>
<td>221</td>
</tr>
<tr>
<td>The Role of the Industrial-Arts Department in the Presentation of Information about Courses and Training Procedures in Post-Secondary School Education</td>
<td></td>
</tr>
<tr>
<td>Colleges</td>
<td>217</td>
</tr>
<tr>
<td>Business Colleges and Commercial Schools</td>
<td>219</td>
</tr>
<tr>
<td>Summary of the Role of the Industrial-Arts Department in the Presentation of Educational Information</td>
<td>221</td>
</tr>
</tbody>
</table>
### IV. INVESTIGATIONS AND FINDINGS (CONT.)

<table>
<thead>
<tr>
<th>The Role of the Industrial-Arts Department in the Presentation of Information about Courses and Training Procedures in Post-Secondary School Education (Cont.)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade and Technical Schools</td>
<td>223</td>
</tr>
<tr>
<td>Evening School</td>
<td>224</td>
</tr>
<tr>
<td>Correspondence Courses</td>
<td>225</td>
</tr>
<tr>
<td>Military Services</td>
<td>226</td>
</tr>
<tr>
<td>Apprenticeship</td>
<td>227</td>
</tr>
</tbody>
</table>

| Summary of the Role of the Industrial-Arts Department in the Presentation of Information about Courses and Training Procedures in Post-Secondary School Education | 228 |

<table>
<thead>
<tr>
<th>Role of the Industrial-Arts Department in the Provision of Placement Techniques</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to Answer Want-Ads</td>
<td>229</td>
</tr>
<tr>
<td>How to Write Letters of Application</td>
<td>230</td>
</tr>
<tr>
<td>How to Fill Out Application Blanks</td>
<td>231</td>
</tr>
<tr>
<td>How to Conduct Self during Interview with Prospective Employer</td>
<td>232</td>
</tr>
<tr>
<td>How to State Qualifications for Employment</td>
<td>233</td>
</tr>
<tr>
<td>Uses of State Employment Service in Job Hunting</td>
<td>234</td>
</tr>
<tr>
<td>How to Register with Placement Agencies</td>
<td>235</td>
</tr>
<tr>
<td>How to Maintain Proper Employer-Employee Relationship</td>
<td>236</td>
</tr>
</tbody>
</table>

| Summary of the Role of the Industrial-Arts Department in the Provision of Placement Techniques | 237 |

<table>
<thead>
<tr>
<th>Placement in Part-Time Work or Other Work Experience Opportunities Outside the School</th>
<th>238</th>
</tr>
</thead>
<tbody>
<tr>
<td>Placement Facilities for Graduates</td>
<td>239</td>
</tr>
<tr>
<td>Placement Facilities for Drop-Outs</td>
<td>240</td>
</tr>
<tr>
<td>Does Your Industrial-Arts Department Make Regular Follow-Up Studies of Graduates?</td>
<td>241</td>
</tr>
<tr>
<td>Does Your Industrial-Arts Department Make Regular Follow-Up Studies of Drop-Outs?</td>
<td>242</td>
</tr>
<tr>
<td>Does Your Department Provide Counseling Services to Former Pupils?</td>
<td>243</td>
</tr>
</tbody>
</table>
Chapter

**IV: INVESTIGATIONS AND FINDINGS (CONT.)**

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>250</td>
</tr>
</tbody>
</table>

Does Your Department Provide Occupational, Informational and Referral Information to Former Pupils?

Are Your Shop Records Cumulative?

**V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>254</td>
</tr>
</tbody>
</table>

Presentation of the Study

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>258</td>
</tr>
</tbody>
</table>

Learning about the Pupil

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>259</td>
</tr>
</tbody>
</table>

Pupil Assistance

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>260</td>
</tr>
</tbody>
</table>

Informational Services

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>261</td>
</tr>
</tbody>
</table>

Post-Secondary School Adjustment

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>262</td>
</tr>
</tbody>
</table>

Services to other School Departments and to the School's Individual Inventory

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>262</td>
</tr>
</tbody>
</table>

Conclusions

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>263</td>
</tr>
</tbody>
</table>

Recommendations

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>264</td>
</tr>
</tbody>
</table>

**BIBLIOGRAPHY**

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>267</td>
</tr>
</tbody>
</table>

**APPENDICES**

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>275</td>
</tr>
</tbody>
</table>

Appendix A: Questionnaire, Instruction Sheets and Letters of Transmittal

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>276</td>
</tr>
</tbody>
</table>

Appendix B: Responses from Leaders in the Field of Industrial Arts, State Supervisors of Industrial Arts and Guidance, and Industrial-Arts Department Heads

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>294</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Responses of 602 Industrial-Arts Department Heads on Records of Individual Pupils</td>
<td>61</td>
</tr>
<tr>
<td>2. Reaction of Ten Leaders of Industrial Arts on the Content of Industrial-Arts Department Records</td>
<td>62</td>
</tr>
<tr>
<td>3. Reaction of Ten State Supervisors of Industrial Arts on the Content of the Industrial-Arts Department Records</td>
<td>63</td>
</tr>
<tr>
<td>4. Reaction of Nine State Supervisors of Guidance on the Content of the Industrial-Arts Department Records</td>
<td>64</td>
</tr>
<tr>
<td>5. Reaction of 602 Industrial-Arts Department Heads on Tests Included in Standardized Test Program</td>
<td>102</td>
</tr>
<tr>
<td>6. Reaction of Ten Leaders of Industrial Arts on Tests Included in Standardized Test Program</td>
<td>103</td>
</tr>
<tr>
<td>7. Reaction of Ten State Supervisors of Industrial Arts on Tests Included in Standardized Test Program</td>
<td>103</td>
</tr>
<tr>
<td>8. Reaction of Nine State Guidance Supervisors on Tests Included in Standardized Test Program</td>
<td>104</td>
</tr>
<tr>
<td>9. Reaction of 602 Industrial-Arts Department Heads on Use of Referrals for Pupil Assistance</td>
<td>118</td>
</tr>
<tr>
<td>10. Reaction of Ten Leaders of Industrial Arts on Use of Referrals for Pupil Assistance</td>
<td>119</td>
</tr>
<tr>
<td>11. Reaction of Ten State Supervisors of Industrial Arts on Use of Referrals for Pupil Assistance</td>
<td>119</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>12. Reaction of Nine State Guidance Supervisors on Use of Referrals for Pupil Assistance</td>
<td>120</td>
</tr>
<tr>
<td>13. Reaction of 602 Heads of Industrial-Arts Departments on Use of Pupil Interviews</td>
<td>132</td>
</tr>
<tr>
<td>14. Reaction of Ten Leaders in Industrial-Arts on Items Considered in Pupil Interviews</td>
<td>133</td>
</tr>
<tr>
<td>15. Reaction of Ten State Supervisors of Industrial Arts on Items Considered in Pupil Interviews</td>
<td>133</td>
</tr>
<tr>
<td>16. Reaction of Nine State Supervisors of Guidance on Items Considered in Pupil Interviews</td>
<td>134</td>
</tr>
<tr>
<td>17. Reaction of 602 Industrial-Arts Department Heads on Development of Home-School Relationship</td>
<td>150</td>
</tr>
<tr>
<td>18. Reaction of Ten Leaders of Industrial Arts on Development of Home-School Relationship</td>
<td>151</td>
</tr>
<tr>
<td>19. Reaction of Ten State Supervisors of Industrial Arts on Development of Home-School Relationship</td>
<td>151</td>
</tr>
<tr>
<td>21. Reaction of 602 Industrial-Arts Department Heads on Special Provision for the Exceptional Pupil</td>
<td>159</td>
</tr>
<tr>
<td>22. Reaction of Ten Leaders in Industrial Arts on Special Provision for the Exceptional Child</td>
<td>159</td>
</tr>
<tr>
<td>23. Reaction of Ten State Supervisors of Industrial Arts on Special Provision for the Exceptional Child</td>
<td>159</td>
</tr>
</tbody>
</table>
Table

25. Reaction of 602 Industrial-Arts Department Heads on Developing Leisure-Time Activities in the Industrial-Arts Shop 170

26. Reaction of Ten Leaders of Industrial Arts on Developing Leisure-Time Activities 170

27. Reaction of Ten State Supervisors of Industrial Arts on Developing Leisure-Time Activities 171

28. Reaction of Nine State Supervisors of Guidance on Developing Leisure-Time Activities 171

29. Reaction of 602 Industrial-Arts Department Heads on Presentation of Occupational Information 184

30. Reaction of Ten Leaders in Industrial Arts on Presentation of Occupational Information 185

31. Reaction of Ten State Supervisors of Industrial Arts on Presentation of Occupational Information 186

32. Reaction of Nine State Supervisors of Guidance on Presentation of Occupational Information 187

33. Reaction of 602 Industrial-Arts Department Heads on Provision of Educational Information 207

34. Reaction of Ten Leaders in Industrial Arts on Provision of Educational Information 207

35. Reaction of Ten State Supervisors of Industrial Arts on Provision of Educational Information 208

36. Reaction of Nine State Supervisors of Guidance on Provision of Educational Information 208

37. Reaction of 602 Industrial-Arts Department Heads on Presenting Information about Courses and Procedures in Post-Secondary School Education 219
<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>38. Reaction of Ten Leaders in Industrial Arts on Presenting Information about Courses and Procedures in Post-Secondary School Education</td>
<td>219</td>
</tr>
<tr>
<td>39. Reaction of Ten State Supervisors of Industrial Arts on Presenting Information about Courses and Procedures in Post-Secondary School Education</td>
<td>220</td>
</tr>
<tr>
<td>41. Reaction of 602 Heads of Industrial-Arts Departments on Provision of Placement Techniques</td>
<td>232</td>
</tr>
<tr>
<td>42. Reaction of Ten Leaders in Industrial Arts on Provision of Placement Techniques</td>
<td>232</td>
</tr>
<tr>
<td>43. Reaction of Ten State Supervisors of Industrial Arts on Provision of Placement Techniques</td>
<td>233</td>
</tr>
<tr>
<td>44. Reaction of Nine State Supervisors of Guidance on Provision of Placement Techniques</td>
<td>233</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

The first half of the twentieth century has witnessed a revolution in educational philosophy. The basic concepts of education have been re-examined and re-defined. In the process of examination and definition, the philosophy of general education has undergone marked changes. New subjects have been incorporated into the course of study, and many subjects formerly considered of major importance have been placed in subordinate positions in the curriculum.

By 1900, industrial arts had gained a degree of acceptance as an integral part of general education. There was some confusion among its proponents as to the ultimate objectives of manual training, as it was then called. The exponent of a strictly utilitarian education considered manual skills important only insofar as they contributed to earning a living. Other educators and philosophers recommended manual skills as necessary to a broad social and intellectual development.
The conflict between the proponents of vocational training and the sponsors who considered industrial arts an indispensable preparation for adjustment to an industrial society continued until 1917. In that year, the passage of the Smith-Hughes Law did much to define and limit the opposing philosophies of vocational-industrial education. A nation-wide system of vocational training was inaugurated and supported by the United States Government. Industrial arts was then free to formulate its general objectives and justify its continued existence as a practical approach to better understanding and appreciation of the socio-economic problems of an industrial civilization.

The following quotation indicates the relationship of industrial arts to the modern school program: (83:1)

Industrial arts is an essential part of general education. It is conceived as an answer to the problem of educating boys and girls to live in a world which may be accurately characterized as industrial and technological. From a nation which was largely agrarian and in which industries were simple and widely decentralized, the United States has moved rapidly to a position of world leadership in industrial development. Children and adults are now living in a civilization that has surrounded itself with mechanical devices which must be understood and used. At the same time, industry through increasing centralization has been removed from the everyday experience of the average individual. This very complexity makes difficult a comprehension of the organization, products, processes, and occupations in industry. Hence, it becomes a function of the schools to give every student an appreciation and understanding of our industrial civilization as a vital segment of American life.
Nationally-recognized lists of objectives indicate that guidance is an important function of industrial arts. Educators, in speeches and articles, emphasize the fact that it is peculiarly adapted to render outstanding contributions to guidance. Stephen J. Pavelek expressed the function of the industrial-arts teacher in a speech to the American Vocational Association Convention in Los Angeles. He spoke as follows: (62:16)

The really worthy-of-the-name industrial-arts teacher is in a pivotal position to make guidance a functional service of his chosen area of education. His shop is equipped to simulate, in a measure, shops in industry. The articles that are constructed or repaired provide ample interest centers for stimulation of thinking and questioning about industrial "Processes, materials, products of manufacture, and with the contribution of those engaged in industry." The atmosphere of the shop is one of freedom, rapport, pleasant relationships with other instructional materials that are used contain information such as cannot be found in any academic classroom. Here is activity, here is enjoyment, here is a natural state for learning and doing things together. Because of such a setting, this teacher would indeed be woefully remiss in discharging his obligation to his classes were he not to take advantage of their heightened interest in industry—and in education—and provide them with effective instruction not only in the direction of choosing their life's work, but also in the direction of better living, better citizenship, better appreciations, and better habits. It can better be accomplished by teachers of ability and vision.

The early years of the twentieth century also witnessed the birth of vocational guidance. The vocational guidance movement developed from a widely-felt need,
and spread rapidly in response to public demand. Social workers and secondary school teachers had long felt concern because of the failure of the schools and civic agencies to equip young people with a basic foundation on which to build a career.

The Vocational Bureau of Boston was organized in 1908, and served as a pattern for many of the organizations springing up in its wake. It had as its expressed aim:

"To help young people in choosing an occupation, preparing themselves for it, finding an opening in it, and building up a career of efficiency and success."

The function of vocational guidance was almost immediately recognized as a responsibility of the public schools. The term "Vocational Guidance" was narrowly defined, with all testing, informational, and occupational services being directed toward vocational choice.

Leaders in education soon realized that the "job-centered" concept inherent in the early vocational guidance program was in conflict with their professed aim to "educate the whole child". They began a shift of emphasis, from the requirements of the job to the needs of the child.

among others, broadened the scope of the guidance movement, but attempted to divide it into tight, self-sufficient compartments. Educators were in danger of concentrating on one phase of the child's development at the cost of a well-rounded education.

Vocational guidance, whatever its early deficiencies, filled a long-felt need. As it was more widely adopted into the school systems of the United States, it began to include many of the activities of educational guidance. Gradually, still aiming toward the complete education of the child, it came to include all of the forms and phases of guidance.

After the guidance movement had been well-established, The United States Office of Education organized the "Occupational Information and Guidance Service". Most of the states in the Union now participate in the organized and co-ordinated movement.

The "Guidance" now functioning in the schools, where fully operative, helps the individual to develop in line with recognized abilities and potentialities, and to acquire informations and skills which will assist him to make the best adjustment to educational, vocational and social situations.

Traxler, a recognized authority on guidance, sets its objectives as follows: (81:3)

"Ideally conceived, guidance enables each individual
to understand his abilities and interests, to develop them as well as possible, to relate them to life goals, and, finally, to reach a state of complete and mature self-guidance as a desirable citizen of a democratic social order."

From a brief glance at the backgrounds, it has become apparent that both industrial arts and guidance have developed out of the same basic need: the problem of adjusting the individual to the socio-economic problems of the modern industrial civilization. Pioneers in both movements recognised the problem, discussed it in similar terms, formulated similar objectives, and, seldom meeting, have followed courses that often appear to run parallel.

Bedford, in a short history of vocational guidance in the United States, makes the following comment: (4:470)

That the movement did not develop in the schools, as a correlative of manual training and industrial arts, is indeed surprising. The problem of selection of boys and girls for training in vocational courses was not even realised until long after vocational education courses were introduced into our schools.

The Purpose of the Study

The purpose of this study is: (1) to learn what guidance services are being rendered to the individual pupil by the industrial-arts departments in the secondary schools of the United States, and the extent of cooperation between the industrial-arts departments and
other school agencies in rendering guidance services;
(2) to determine, from selected leaders of industrial
arts and state supervisors of industrial arts and guidance, which guidance services they consider desirable in the
industrial-arts departments, and which services they con-
sider necessary and indispensable; and (3) to determine, from a study of contemporary guidance and industrial-arts
literature, the essential guidance services which may be
rendered by the industrial-arts department.

Definition of Terms

Guidance: Guidance is the process of helping the individual
to discover and use his natural endowment, in addition
to special training obtained from any source, so that
he may make his living, and live, to the best advantage
of himself and society.

Guidance Program: That body of services organized
specifically to help pupils solve their problems and
to improve their planning (29:8)

Industrial Arts: "Industrial arts is that part of general
education concerned with satisfying man's innate
desire to construct with concrete materials, and the
development of an intelligent understanding of our
modern industrial civilization and the problems which
have resulted from it; through contacts and ex-
periences with a wide variety of industrial products,
manipulative experiences, and tools of manufacture."

Counseling: The process of helping a pupil, through interviews and other individual or group relationships, to solve his problems and improve his planning.

Interview: A person-to-person relationship through which one individual with needs and problems is helped to achieve desired goals. (27:9)

Placement: A service intended to help a pupil secure the most effective relationship to a job or the next step in his educational or personal program.

Follow-up: A service intended to secure information about former pupils, and to provide continuing services to pupils after they leave school. (27:9)

School-leaver: Either a graduate or a drop-out.

Secondary School: For the purpose of this study, the term "secondary school" includes no grades below the seventh and no grades above the twelfth.

Guidance services: Guidance services include the many activities designed to help pupils with their life-adjustment problems and needs: analysis of the individual; informational--occupational, educational, referral; counseling; placement; and, follow-up of the school leaver.
Limitations of the Study

This study of the guidance values of industrial arts in the secondary schools of the United States does not attempt to define or limit the respective positions of either industrial arts or the organized guidance program. It seeks to learn what actual guidance functions or services are being rendered to the pupil by the industrial-arts departments in American secondary schools. The philosophy expressed in the objectives of industrial arts can become effective only when translated into action. The degree of success of the translation is the object of this study.

The secondary schools included in this study are included in the distribution list in Appendix A.

Bias may have been introduced by the inability to determine the relationship of this sample to the total population. However, a study of state and national directories indicates that the returns approximate a representative sample.

Sources of Data

Data used in this study were obtained from the following sources:

1. From responses to questionnaires sent to a selected
sampling of heads of industrial-arts departments in all parts of the United States.

2. From responses to the questionnaire sent to state supervisors of industrial arts.

3. From responses to the questionnaire sent to state supervisors of guidance services.

4. From responses to the questionnaire sent to heads of college industrial-arts departments responsible for training industrial-arts teachers.

5. From historical bibliographical sources.

6. From contemporary professional literature.

7. From official state and national publications dealing with industrial arts and guidance.

Copies of the questionnaire will be found in Appendix A.
CHAPTER II

BACKGROUND OF INDUSTRIAL ARTS IN ITS RELATION TO THE CONCEPT OF GUIDANCE

The modern educator sometimes refers to industrial arts as a comparatively recent offspring of the Industrial Revolution. He may fail to realize that industrial arts was recognized as an economic and social necessity before the beginnings of recorded history. However, the philosophy underlying the teaching of industrial arts has shifted. At first, teaching of the industrial arts emphasized the strictly utilitarian values of that particular field of education, while there were some who ascribed to it impossibly idealistic moral and spiritual values. Modern education has profited from the varying views, adopting the best of each and applying it to make industrial arts a vital force in child development and adjustment.

Industrial Education in Ancient and Medieval History

Jewish education, as far back as two thousand years before Christ, was based primarily on religion. But next in importance to the study of religion was instruction in some trade or other vocation. Manual skills, according to the Talmud, were among the bases of the social system.
People were encouraged in the manual arts by such words in the Talmud as these: "Beautiful is the intellectual occupation if combined with some practical work." (5:14)

Bennett comments on the place of the manual arts in Jewish life as follows: (5:15)

Evidence seems to be lacking that the Jews appreciated as do modern educators the intimate relationship between training in manual skill and intellectual development, but they did in a more or less general way recognize that a boy who worked with his hands was better than a boy who did not, and that study in school and labor at a manual occupation go well together, and are effective in producing useful members of society.

In early Greek and Roman history, there were sporadic attempts at education in industries. The ruling powers realized that the learning of a trade by the middle and lower classes was an economic necessity. Schools for cooks, hairdressers, mechanics and architects existed in the cities, and apprenticeship was the method of training for physicians, lawyers, artists and orators. However, because of the common use of slave labor, the manual arts were not respected by the upper classes, and were never adopted into the higher educational system.

The use of manual skills as a form of self-discipline was generally accepted among the early Christian monks. As their monasteries extended from Southern Europe through Central Europe, and finally across the English Channel to England, the monks kept alive the great civilizations of the past. The monasteries became the only schools to
which the sons of the aristocracy could look for an education, the only universities of research and the only custodians of learning and culture. Monasticism developed into a system of education in which work with the hands was required of all scholars.

Participation in skilled labor was the principal means of education for middle-class youth, also. Apprenticeship in the crafts was the avenue to learning and position. The aim was preparation for earning a living, but the apprentice also received moral training, and instruction in reading and writing.

**Industrial Education During the Renaissance and Reformation**

During the Renaissance and Reformation, the spirit of rebirth and reform extended to education. In the sixteenth and seventeenth centuries, there was a widespread interest in educational possibilities. Bennett says: (5:30)

During this period there appeared two of the fundamental ideas upon which modern instruction in the manual arts has been built. The first of these is that sense impressions are the basis of thought, and, consequently, of knowledge. The second is the related idea of "learning by doing". Out of the first idea grew the object method of teaching and, later, the laboratory method; out of the second came the recognition of the value of working through a process, of making something with the hands or with tools, of doing something skilfully, as a basis for rational thinking. This idea led to placing handi- crafts in the school and the children in
the workshop and in the field to receive instruction.

Martin Luther, Rabelais, Mulcaster, and Francis Bacon were instrumental in developing the theory of education beyond the monastic system, and each attempted to fit the teaching of manual processes into the school. Their objectives remained utilitarian, however; they still viewed manual arts as a means of earning, but they recognized its importance to both rich and middle-class youth.

In the seventeenth century, Comenius, "the father of modern pedagogy", formulated principles and methods of education which were still in use two centuries later. Included in his curriculum for children from six to twelve years of age was this final requirement: (5:66)

"They should learn the most important principles of the mechanical arts, both that they may not be too ignorant of what goes on in the world around them, and that any special inclination towards things of this kind may assert itself with greater ease later on."

During the middle years of the seventeenth century, Samuel Hartlib, a progressive citizen and philanthropist, stimulated and transformed the educational thought of his time. Among the brilliant group of philosophers who contributed to the liberalization of education under his leadership was Sir William Petty, who published a
revolutionary pamphlet, entitled The Advice of W. P. to Mr. Samuel Hartlib for the Advancement of Some Particular Parts of Learning, in 1647.

Concerning education, the pamphlet suggested the following reforms: (63:45)

1. That literary work-houses be established "where children may be taught as well to do something towards their living, as to read and write".

2. That all children above seven years of age be given this kind of education, none being excluded by reason of poverty, "for hereby it hath come to pass that many are now holding the plow which might have been fit to steer the State". Children of poor parents might work longer than others if in need of earning.

6. That all children, though of the highest rank, be taught "some genteel manufacture in their minority".

Petty also proposed a society or guild of tradesmen consisting of expert workmen of different trades. This group was to write books revealing the techniques of the trades and describing in detail the manual processes of each trade. One use of such a book, said Petty, was to enable boys planning apprenticeship to "foreknow the good and bad of it, what will and strength they have to it, and not spend seven years in repenting". Most of the previous thinking about manual training had ascribed vocational, moral and disciplinary values to such education. Petty and Comenius, apparently, were the earliest educational leaders to recognize the guidance values inherent in the study of "mechanical arts".
Locke, in his thinking and writing about education, advised that schools should fit a boy for practical life, whether it be in a trade or a profession. For poor and middle-class children, a trade was to be taught in school. For the nobility, Locke also recommended the learning of manual trades, though in this case it was for exercise and recreation.

Wendt discussed the emphasis on manual instruction during this period as follows: (87:151)

The increasing importance of industrial education during the early part of the seventeenth century seems to be due to several factors. First, the reaction against theological formalism helped promote it. Second, school education in the learning of a trade was recognized as a means of relieving poverty and destitution resulting from the wars of that period. Third, recognition by leading writers of that period encouraged it. Fourth, the tendency of the time was to break from the traditional.

The Eighteenth Century

In Germany, Francke developed a school for poor and neglected children. In addition to religious instruction, he gave practical instruction, including manual arts. This was partly for economic reasons, yet he says that "the children should not work for the making of as many objects as possible, but they should work for their own development". (31:76)

Rousseau, in 1762, published Emile, a study in
child development. This book was the cause of an upheaval in educational thinking. His recognition of the fact that the manual arts may be a means of intellectual training marked the beginning of a new era in education.

Bennett quotes Rousseau as saying that Emile (5:80) "will learn more by one hour of manual labor, than he will retain from a whole day's verbal instructions... . Of the various occupations which serve to furnish subsistence to mankind, those which approach nearest to a state of nature at best are the manual arts".

Rousseau's purpose in having Emile learn a trade was not that he would be likely to earn his living by it, but because it would be a vital part of the process of his education.

Festalozzi, sometimes called the "father of manual training", accomplished very little in the field of handwork, but his basic idea concerning its use has become one of the bases of modern education. He repeatedly used objects and manual processes, both skilled and unskilled, as a means of teaching the traditional school subjects.

In Germany at this period, Campe grasped the guidance possibilities of manual work in education. He said: (12:85)

I, for my part, cannot deny that every child, be the standing or sex what it may, ought to be kept regularly and from an early
age, at some mechanical and corporeal work; provided only that in the choice of it regard be paid on the one hand to the future lot, and on the other to sex, and that one child must be more and another less occupied in this manner. The usefulness of this is indeed too great and manifold for me to wish any child to be deprived of it.

The Early Nineteenth Century

Although many of the earlier educators had caught glimpses of the importance of the manual arts as an aid in individual analysis and direction, this view was almost forgotten in the first half of the nineteenth century. Over Europe and America, trade schools flourished for the education of the underprivileged, the negro, delinquent youth, and the indigent. During this time, the study of manual arts was almost entirely vocational.

Industrial Education During the Latter Part of the Nineteenth Century.

This study of the background of industrial arts does not attempt to make a comprehensive historical survey of all phases of growth, but rather to analyse influences which contributed to the present place of industrial arts as an essential part of general education and an important factor in child guidance. There have been two contradictory schools of thought: first, the educators who considered manual skills important only insofar as they
contributed to earning a living; and second, the educational philosophers who recommended the development of manual skills allied with industrial knowledge for a broad social and intellectual education.

By 1868, the two conflicting concepts of the value of industrial education were well established, each with its loyal group of proponents. Almost simultaneously, there arose in Sweden and Russia two new movements which were to sweep the educational world. Victor Della Vos in Russia and Otto Salomon in Sweden developed new techniques of class and shop instruction in the manual arts. Their efforts gained immediate international recognition and gave impetus to the rapid growth of manual arts shop courses.

The Russian system was aimed at teaching purely mechanical skills, with no thought of possible social values. Its objective was to teach the fundamentals of the mechanic arts quickly and thoroughly, with such theoretical knowledge as the mechanic needs in addition to manual skill. As a purely mechanical and unimaginative system of teaching, it had many followers; but it exerted little influence on the philosophy of general education.

The Swedish Sloyd was, perhaps, the first method of teaching manual skills to be organized for the purpose of general education. It was devised for the enrichment of the education of all children, rich and poor,
intelligent and backward. Salomon wrote in his book, *The Theory of Educational Sloyd*, that the aims were divided into groups: (1) formative, and (2) utilitarian.

In the first group of aims he listed: (70:67)

1. To instil a taste for, and a love of, labor in general.
2. To instil a respect for rough, honest, bodily labor.
3. To develop independence and self-reliance.
4. To train in habits of order, exactness, cleanliness and neatness.
5. To train the eye and sense of form; to cultivate dexterity of hand and develop touch.
6. To cultivate habits of attention, industry, perseverance and patience.
7. To promote the development of the physical powers.

Manual training in the various countries of Europe was reorganised after one or the other of the new systems. The trend toward vocational education in France, England, Scandinavia, and Germany was further accelerated by the improved techniques of classroom teaching of mechanical processes.

**Industrial Education in the United States**

For two centuries, instruction in manual processes had been almost entirely devoted to providing trade training for the poor and underprivileged in the United States. It was used as a practical means of elevating the economic status of indigent whites, manumitted slaves, and pre-delinquent boys and girls who would otherwise be
forced to become criminals for lack of other means of gaining a livelihood. While it served a worthy social purpose in helping these submerged groups, it contributed nothing to general education.

Woodward was one of the first American educators to become aware of the tremendous implications of the new European methods, Sloyd and the Russian system. He became an advocate of manual training as a means of enriching general education, with particular attention to individual differences. Woodward said: (95:367)

"My educational creed I put into six words: Put the whole boy to school."

He believed that "such instruction would prevent many young men from drifting into overcrowded and uncongenial occupations, or lapse into idleness and vice".

Runkle was similarly impressed, and applied the new techniques to school; but he also looked beyond the immediate acquisition of skills to future social gains. In a report on manual training, he stated: (69:341)

There is a growing feeling that our public education should touch practical life in a larger number of points; that it should better fit all for that sphere in life in which they are destined to find their highest happiness and well-being. It is not meant by this that our education should be lowered mentally, but that it should be based, if possible, upon those elements which may serve the double purpose of a mental culture and discipline—a development of the capacity of the individual with and through the acquisition of artistic taste and manual skill in the graphic and mechanic arts.
Which most largely apply in our industries.

When the National Education Association held its annual summer convention in 1882, a committee on industrial education made an important report. It recommended:

(48:360)

a. The development of sense perception through the study of models and natural objects.
b. The introduction of experimental work in natural science in the grammar grades.
c. The systematic teaching of drawing.
d. The introduction into grammar and high schools of instruction in the use of tools, not for their application in any particular trade or trades, but for developing skill of hand in the fundamental manipulations connected with the industrial arts, also as a means of mental development.

An outstanding contribution to the theory of industrial education was made by Dewey. He showed the justification for this type of education when he stated: (19:367)

The child's knowledge originates and develops in connection with his doing. Industrial occupations gratify his native tendencies to explore, to manipulate tools and materials, to construct. They reduce the gap between life in school and out. They make possible that cooperative activity so essential to the social education of the child.

The realization of the guidance implications of industrial arts came with the early days of the twentieth century. In the first two decades, "manual training", with its emphasis on hand skills, gave way to "manual arts", which included drawing and design, and was intended
as a preparation for future training in industry. As the objectives of the subject broadened, the emphasis shifted from skills to an enriched concept centered around the pupil's instincts and abilities in relation to his environment.

Friese describes briefly the influences that shaped the future course of industrial arts, as follows: (33:48)

A new concept of the nature and purpose of what has come to be known as industrial arts was clearly enunciated by Dean James R. Russell in 1909, and by Professor Frederick G. Bonser in 1911. How to interpret, react to, and secure the greatest benefits from industry and its products was conceived as being of equal or greater value than the development of hand skills.

Before the first World War, methods in the mass production, distribution and consumption of manufactured goods were undergoing radical changes. This provided a stimulus for the growth of schools and school shops, and encouraged the inclusion of manual instruction in the curriculum, but it also high-lighted opposing philosophies of the purposes of such instruction. Diversification of industry had become so great that previously acceptable systems of apprenticeship and job-training were inadequate to meet the requirements of employers or prospective employees. Agriculture and industry were burdened with an influx of untrained labor.

The wide acceptance of compulsory education laws kept young people in school during adolescence, but often
failed to prepare them either for satisfactory living or earning a living. Parental groups began to demand concrete, specific returns in enlarged earning ability for the years spent in schools.

One response to the demand was a rapid growth of vocational schools, sponsored by states, cities, or industries. The declaration of World War I intensified the need for men with specific skills. The need was nation-wide, and demanded a solution at a national level. Vocational-industrial education, subsidized by the Federal Government, was made possible by the Smith-Hughes Law of 1917. Millions of dollars were appropriated to promote vocational education as a part of public school education.

The result of the Smith-Hughes Law was a change in emphasis that served to partially paralyze industrial arts instruction in the schools. Patrons and schoolmen began to favor shop teaching which would be more vocational in character. Mays, writing of that uncertain period in the existence of industrial arts, observes: (54:396)

"Due to the expansion of the vocational offerings in the upper grades of the high school, industrial arts came gradually to be regarded as belonging primarily to the junior high years, leaving the upper levels free for offering vocational-industrial courses."

Brewer, in his History of Vocational Guidance, presents a comprehensive survey of the conversion of
manual training into a vehicle for the exploratory and try-out experiences essential in guidance. He says:

(10:126)

The tryout idea, of course, is a very old one in athletics and also in debating. With the establishment of shops for industrial arts, the tryout idea has been widely extended and is often correlated with occupational information given in separate classes.

The ten years following World War I served to develop a philosophy of industrial arts in its relationship to the pupil. The emphasis given to vocational-industrial education subsided. In 1922, A. H. Edgerton made a study to determine the real aims and objectives of industrial arts. The following reasons, arranged in order of importance, are given for offering industrial activities and related studies in school. (26:11)

I. Contributing to the general experience, all-round development, and industrial intelligence.
   1. Understanding and appreciating economic production in some form.
   2. Gaining respectful attitude toward the various workers and their work.
   3. Having ability to judge industrial products and do simple repair and construction work.

II. Aiding in the intelligent selection of industrial occupations without encouraging early choice.
   1. Training individual inclinations, interests and capacities for industrial pursuits through typical experiences.
   2. Making available studies of the conditions, demands and opportunities in rated occupations.
III. Encouraging the school experience of the pupils through concrete situations.
   1. Having science, mathematics and other subjects profit from a better understanding of materials, processes, tools and machines.
   2. Providing for the individual needs of pupils who would not remain for academic education alone.
   3. Helping pupils more wisely to choose future courses in school.

IV. Preparing for entrance into industrial vocations.
   1. Extending the try-out activities to meet the preparatory vocational needs of pupils who find it necessary to leave school with the minimum of preparation.
   2. Offering greater opportunities for commercial experiences in shop work by cooperating with outside productive plants during the ninth year.

In 1928, Warner arrived at a set of objectives that were based on the reaction of a jury of prominent specialists in this field of study. Warner pointed out that, although there may never be a uniform set of objectives for industrial arts, there is a definite tendency toward agreement among the specialists, as seen in the ranking of the objectives in his study. A summary of the objectives recommended by Warner's study follows:

(84:44)

For Junior High Schools

1. Exploratory or findings values which relate to the detection, discovery or tryout of interests and aptitudes.
2. General guidance, both educational and vocational, gained through broad contacts and studies of industrial vocations.
3. Household mechanics or the development of handyman abilities about the home.
4. Avocational opportunities for the development of hobbies or a side-line interest.
5. Formation of desirable personal and social habits and insights which will influence conduct.
6. Consumers' or utilizers' knowledges and appreciations of the products of industry.
7. Development of a degree of skill with tools and in tool or machine processes commensurate with the ability of the pupil and incidental to the completion of a project or activity which seems to have educational value.
8. Correlation or integration with other studies and interests both in and out of school.
9. Vocational purposes in the definite preparation for a future industrial vocation. Applicable to from 6 to 16 per cent of the average junior-high school group where the occasional boy has to drop out of school.

Senior High Schools

1. General guidance.
2. Further exploratory and avocational opportunities.
3. Vocational preparation for a specific industrial vocation.
4. Consumers' or utilizers' knowledges and appreciations of the products of industry.
5. Formation of desirable personal and social habits.
6. Development of a degree of skill with tools.

Schweickhard had this to say about the contribution of industrial arts in the school: (73:118)

Keeping in mind the welfare of the entire group and attempting to secure the greatest benefits for all, it will be found possible, not to recognize the peculiar needs of each individual pupil,
but actively to take into account the existence of groups of pupils who may be benefited broadly in a more collective manner. The groups to be thus taken into account are only three in number.

(1) There is always a group in every school the members of which leave school at completion, or before, and sooner or later enter industry to a large extent.

(2) The group, probably most highly specialised of all, is made up of those who will continue their education beyond the intermediate school to prepare for trades, technical professions, or engineering.

(3) All those not included in either of the other two groups will make up a group by themselves, and will later constitute what may be thought of as the general public.

Since the three groups mentioned above are indistinguishable during the process of their education in the elementary school, and at least part way through the intermediate school, it is essential that the needs of all be provided for. Even if it were possible to differentiate between the groups at the start, it is doubtful whether it would be advisable to do so, since each will derive some benefit from the work aimed primarily for each of the other groups.

When the great depression of the 1930's brought unemployment and suffering to skilled workers in all industries, any attempt to develop additional industrial skills was discouraged. Industrial-arts leaders turned to the development of avocational interests and home-mechanic abilities. This narrow purpose served adequately during the period when industry was unable to absorb the available labor supply.

In the past ten years, industrial knowledge and direction have assumed an important role in education. The contribution of industrial arts to national welfare
since the start of World War II has been recognised.

Bowman described the position of industrial arts in general education in 1941 as follows: (8:122)

In the expansion of the content and its applications to increase the contributions of industrial arts in the social development of the individual, the general shop has developed rapidly. In the junior high school, the comprehensive general shop of the general-mechanics type has had a rapid growth. In the senior high school, and to some extent in the larger junior high schools, the general metal shop, general woodwork, general electrical, general graphic arts, or general drawing and general printing and the like have increased. One of the developments in the senior high school has been the work under the general heading of general industrial mechanics. This work has included the mechanical cores in large divisions of our social-industrial civilisation. Besides developing the individuals as intelligent consumers, the work also has served to give the students an increased breadth of basic mechanical intelligence and insight, as a foundation on which to build later vocational training within the general education territory. It serves to aid the individuals as they are about to enter vocational preparation.

The years since the close of World War II have seen increasing activity in industrial-arts education. Leaders in the profession are attempting to make it a medium for guidance services leading to the adjustment of the pupil to his environment.
CHAPTER III

STATEMENT OF THE PROBLEM

Industrial arts has gained and held a position in secondary schools because of certain specific contributions which it makes to general education. As educators have shifted their points of view from the subject-centered curriculum to the child-centered curriculum, assistance to the individual pupil has become an important function of the school. Leaders and writers in the field of industrial arts have ascribed to it certain guidance values in aiding the pupil to interpret his abilities, capacities, potentialities and needs in relation to his physical and social environment. The writer's problem is that of determining the contribution which industrial arts is making to the program of guidance services within the secondary school.

Jones says: (47:69)

Many authors fail to distinguish between those things that make it possible to guide wisely and the process of guidance itself. Testing and test results, records, fundamental habits, and skills are all necessary for wise choice, but it is only when the teacher, counselor, or other person uses these in a conscious effort to help the individual in his choices that guidance is present.

Traxler presents a question, consideration of which
helps to clarify the problem. He asks: (81:308)

"Is it desirable to combine the functions of
guidance and the functions of teaching in the same person?
Should not guidance procedures be carried on by specially
trained persons?"

Traxler answers the question as follows: (81:309)

The answer is that these functions are
already combined in the same person. All
teachers carry on guidance and will continue
inevitably to do so. The question is not
whether teachers shall engage in guidance,
but whether guidance shall be unplanned and
incidental, or planned and purposeful.

Erickson says that the responsibilities of classroom
teachers for improved guidance services cannot be evaded.
It is not either teaching or counseling, but both. (27:128)

It must be understood that the term "guidance", as
used in this study, is broadly interpreted to avoid the
limitations imposed by such terms as "vocational
guidance" or "educational guidance".

Turner expressed a comprehensive view of the place
of guidance in industrial arts when he stated: (83:269)

On the secondary school level, many systems
are attempting to remedy this lack of under-
standing by more or less comprehensive guidance
programs. Since industrial arts have become an
integral part of the general educational
experience of practically all pupils, it may be
well to point out some specific places wherein
the industrial-arts teacher may become a
functioning part of such a program.

Guidance cannot be construed as something
you do to a child, rather as a process whereby
you build up in him the desire and the power to
do something for himself. In the larger sense,
guidance should take place throughout the entire school day of the student. It involves the sympathetic understanding of the pupil's interests, aptitudes and abilities, together with a conscious effort to help each pupil make the most of them. It means that the teacher must be encouraged to play a large part in the guidance program of the individual school if such a program is to bear fruit. He should be able to sense the symptoms of maladjustment in the pupil in the incipient states, contribute to the diagnosis of the causes of such maladjustment and assist in the application of the corrective or remedial measures advised. . . . Furthermore, the teacher may give specific guidance to pupils in the pursuit of intellectual interests, in the development of proper conception of the processes of education and the opportunities for education provided by the immediate school system and the state.

This phase of the modern educational program should arouse the interest of the wide-awake industrial-arts teacher because it places his department in its true relation to the whole school program for perhaps the first time.

Guidance for leisure is another point where the industrial-arts teacher can exert a strong influence on the adolescent. Particularly appealing is the idea of constructing workbench and tool sets for home use through intershop correlation. Many a boy has equipped a creditable home workshop that stands as a monument to the inspiration furnished by some shop teacher.

Jones says: "Guidance involves personal help given by someone; it is designed to assist a person to decide where he wants to go, what he wants to do or how he can best accomplish his purpose; it assists him to solve problems that arise in his life". (47:61)

Warner, in his study of Policies in Industrial Arts, concluded, on the basis of recommendations from juries of
teachers and representative authorities in the field, that the following purposes of industrial arts are of importance: (84:44)

1. Exploratory and findings values which relate to the detection, discovery, or tryout of interests and aptitudes.
2. General guidance, both educational and vocational, gained through broad contacts and studies of industrial vocations.

Traxler considered the role of the teacher in guidance work in two ways. The first was the connection with guidance services which teachers have under an organized guidance program, with each teacher being responsible for a group of pupils. Second was the connection with guidance which each teacher has in her regular classroom and extracurricular activities, regardless of the program of guidance followed in the school. It is with the second of these roles, the role of the industrial-arts department or industrial arts teacher in the guidance program, that this study is primarily concerned.

Classification of Guidance Activities in Industrial Arts for the Purpose of this Study

It has been found convenient to classify all guidance activities dealt with in this study under four main headings. They are as follows:

1. Learning about the pupil: record-gathering and record-keeping, including test records.
2. Personal assistance: problems of pupil adjustment, including referrals, interviews, home-school relationships, and the maladjusted pupil.

3. Informational services: vocational, educational and avocational aspects of the individual.

4. Post-secondary school adjustment to society.

Learning About the Pupil

The necessity for the first of these headings, "learning about the pupil", including record-gathering and record-keeping, is discussed at some length by Jones:

(47:113)

The most important study to be undertaken is the study of the individual. We need to know the facts about each student; these are of vital importance. Although we are continually in touch with students, it is, nevertheless, very difficult to secure reliable data about them. Knowledge of pupil needs and of the probable effect of the help planned are indispensable for effective guidance.

Completely adequate guidance can be given only when we have the most important facts about the individual. These include information not only concerning the various phases of his work at school but his family history, home conditions, general outside associations, his health, and his whole outlook on life.

Myers, in an article entitled "Relation of Industrial Arts Education to Guidance", places record-gathering and record-keeping in a prominent position among the duties of the industrial-arts department.

(58:59)
A program that best helps a pupil discover his own assets and liabilities is a good program to help the teacher learn his pupils. But this program by itself is not enough. The teacher must be conscious of responsibility for learning all he can concerning each pupil, and alert to observe him. Provision is necessary, also, for him to make and keep a systematic record of what he learns, both for his own use and for the use of the school counselor. And this record must be far more than a grade of A, B, C, D, or E, on the semester's work as a whole. Any special interest, aptitude or limitation of the pupil shown in any particular unit of the semester's work deserves attention. If, for example, a boy does exceptional work in the electrical unit of the general shop course and only fair or even poor work in the woodworking unit, these facts belong in the record. Also, the industrial-arts teacher should file reports on the possession to high or low degree of important personality traits of pupils, as these are revealed in the work of the shop.

Only then, as the teacher takes advantage of the peculiar possibilities afforded by his subject will industrial arts make to a central office of the school a rich contribution of data which will be significant for the vocational choice of his pupils.

Testing is included under the first classification as an important part of record-gathering and keeping. It is impossible for a teacher to know the pupil without a system of objective testing. Germaine and Germaine discuss the contribution of scientific measurement as a guidance tool of the teacher as follows: (37:22)

The teacher needs the conclusions derived from interviews, observation, and the student's past record. But these data are subjective, and, in conclusions, the teacher needs objective data as well.

The most valid and reliable tests, questionnaires, and inventories in the various areas of human experiencing are invaluable analytical tools.
Germane and Germane emphasize the responsibility of the teacher in knowing his pupils through tests and measurements before he prescribes materials for study and decides upon methods of instruction. Reliable measurements of ability and achievement must be used in making the diagnosis. (37:224)

It must be understood that the writer does not suggest or imply that the industrial-arts department or teacher should take over the school-testing program, or duplicate part of the testing program of other departments. The study emphasizes repeatedly that there are certain tools and techniques which contribute to the guidance services of industrial arts. For the industrial-arts department to fulfill adequately its responsibilities to the individual pupil, objective, or standardized, tests are sometimes necessary. If the industrial-arts teacher is not qualified to give such tests, and there is no school testing program, it would be desirable to call in expert assistance. The important is that much of the data gained from tests is necessary to the counseling activity

Erickson states, regarding testing: (27:13)

The value of test results depends greatly upon the conditions under which they are administered. Therefore, it requires considerable skill to use these instruments properly. It is very important that a qualified person be in charge of this phase of the testing program.
Pupil Adjustment

The second classification of guidance activities for industrial-arts departments is devoted to the problems of pupil adjustment. This is a very broad, and somewhat vague, term covering many planned therapeutic responses to the indicated needs of the individual pupil.

Traxler discusses ways in which the teacher can assist in the adjustment of the pupil to his in-school and out-of-school environment. The first way is in the learning situation, where the teacher diagnoses a learning difficulty and prescribes remedial assistance. Another type of adjustment problem includes minor behavior difficulties, usually not indicating serious maladjustment. Matters of personal and social adjustment may cause the pupil to seek the teacher's aid. Some individuals need psychiatric assistance, in which cases the teacher may direct them toward sources which provide treatment. Most of these adjustive aspects of guidance are possible and desirable for the teacher. (81:314)

The first guidance service listed under pupil adjustment is referral to specialists or informational agencies. Erickson states that the teacher should and must make referrals. He continues: (27:137)

All members of the staff should recognize the importance of referring pupils to more helpful resources. The teacher has a unique
opportunity to locate evidences of need and then help the pupil find the person or the agency most able to help.

Pupil interviews and counseling constitute another guidance service. Klein and Moffitt discuss the role of the teacher in a cooperative counseling program as follows: (51:3)

No other person on the staff of the school has the opportunity for such frequent and continued observation of the student as does the teacher. This may extend through one or more courses, or even over a period of several years. The use of teacher counselors is a practical approach of contact and service to the entire student personnel; and as the majority of these students are making normal adjustments, such informal contacts should be adequate in most instances.

Erickson also discusses the role of the teacher in counseling. He says: (27:136)

In any school, large numbers of pupils will turn to teachers for counseling. The teacher has two types of responsibility:
1. To help those pupils with problems growing out of classroom work.
2. To help pupils with other types of problems. In this case the pupil turns to the teacher he knows and trusts. The teacher should try to be helpful—he should also recognize his own limitations and help pupils find more competent help in areas where the teacher is insecure.

Darley emphasizes that teachers will have varying amounts of effectiveness for the guidance program. He discusses this as follows: (16:167)

For example, some teachers will operate best when they interview students regarding their own subject matter.
Other teachers may find their specialty in giving out vocational information...

Some of the advisers of extracurricular activities may be extremely skillful in handling social adjustment problems of students as these problems can be seen and treated in the group activity situation...

A few teachers may develop an adequately high level of clinical skills for use in a wide range of student adjustment problems, when they become more thoroughly acquainted with the technical aspects of guidance and receive enough practice in interviewing. There are the people who will carry the heaviest part of the counseling or guidance work from a clinical standpoint.

The development of a favorable home-school relationship is often valuable in analyzing the pupil and contributing to his adjustment. Germane and Germane consider the parent-interview a worthwhile service. (37:135)

Erickson also considers the parent-conference a necessary tool of guidance. He says: (29:342)

... There are certain times during the year when the parent may well be called to the school for a conference on some specific guidance problem that must be worked out within a limited time... In addition to contacts mentioned in this grouping, parents should feel welcome to visit the school at any time.

A second group of activities for parent contact centers in home visitation. While larger schools are gradually extending this privilege by inviting the parents to come to the school, there is no adequate substitute for direct contact with the home. A teacher can understand a pupil better and do a more effective job of counseling if she has some first-hand experience in the home. In small and medium-sized schools, such direct contact is still possible.

The problem of the maladjusted child--the very slow
or the very bright pupil, the personality problem, the disciplinary problem—all these are included under the responsibilities of the industrial-arts department in pupil adjustment. The flexibility and the social organization of the school shop are well adapted for dealing with the unusual child.

Crawford considered the problem of the unusual child in the school shops as follows: (15:241)

The bright boy and girl, with I. Q. above 125, wants and needs shopwork. But this shopwork must actually challenge and even demand full capacities...

For cases of I. Q. ranging perhaps from 70 to 85, a different type of shop work is needed than for normal children. Special jobs and special job sheets and instructional materials are required, to lower the threshold of encouragement and prevent inferiority attitudes that cause defense mechanisms. Dull minds, academically measured, can respond happily and reasonably well to a shop program definitely aimed at the actual abilities, capacities and needs of the particular mental age involved.

Jacoby asserts that industrial arts promotes mental health. He expresses this opinion in the following paragraph: (46:255)

Industrial arts provides an activity in the curriculum in which maladjusted students may initiate more normal school and social adjustment through release from fear, anxiety, tension, and the sense of failure. The teacher must stimulate desirable adolescent experiences in responsibility, cooperation, and group activity in which each student will have a feeling of success. The satisfaction of a purposeful manual activity and skill may provide compensation for a sense of inadequacy in other school subjects.
Ericson, in *Teaching the Industrial Arts*, contributed a statement on the place of student counseling in industrial arts, as follows: (30:329)

> Counseling with students forms an important part of a teacher's activities, whether or not the teacher has received a definite appointment for such service. In fact, true teaching has always been partly counseling. Youth needs counseling and likes it, provided it is of the right type.

**Informational Services**

The third main division of guidance services which can be rendered by the industrial-arts department includes vocational, avocational and educational guidance.

It is, perhaps, the most obvious and widely recognized of all the contributions which industrial arts makes to guidance.

Goldstein deals with the subject in the following terms: (38:56)

> There are many ways in which the industrial-arts teacher can practice vocational guidance. He should, of course, have the facilities and equipment to make all of his shop offerings part of a living, dynamic guidance. He should realize that complexity may be a prime characteristic of industry and business today, but that it is a complexity marked by a smooth and tremendous interlocking of many supposedly unrelated phenomena and activities.

Ericson and Smith recognize the responsibility of the teacher in vocational guidance. They say that the
teacher who presents to his pupils the educational and vocational implications of his own subject meets an important need of the pupils. (28:177)

The role of the industrial-arts teacher in the guidance program includes the phases of educational guidance connected with the choice and pursuit of a trade: trade and technical education, apprenticeship information, trade school training, evening school, and correspondence courses. Goldstein says:

The industrial-arts teacher should be able to inform his students of the extent of schooling required for the trade. He will point out just how much academic schooling is optimum. If technical education is necessary, he should have available the information about the number of years of such education for entrance and satisfactory progress. Also whether this technical education requires full-time attendance; whether an apprenticeship may be substituted for part of the technical preparation; and whether attendance at the school is, of necessity, during the day; or whether the courses may be secured in evening school or through correspondence.

Working conditions in industry have undergone many changes in the past half-century. The sixty-hour work week has been reduced to forty hours in most industries, with a maximum work-week of thirty hours in a few occupational fields. That may be broken down into five days of from six to eight hours of work each day. It has become obvious to most educators that proper training in the use of leisure time must be included in the educational program. Avocational pursuits occupy more time
for workers in nearly all fields than do vocational efforts.

The industrial-arts department can contribute valuable training in the worth-while use of leisure time through the teaching of recreational handicrafts and hobbies. The teacher can stimulate interest in such activities through hobby clubs and shop planning of home workshops. In addition, he can make a valuable contribution to the home by teaching simple home mechanics.

Fries feels that industrial arts provides a ready avenue of self-expression for many who find other avenues closed. He says: (34:62)

> It appeals to youths and adults. It appeals to boys and men, and in some of its aspects to girls and women. It may be conducted individually or in groups, in the home shop or a school or group shop. For brain workers, it can be an "escape". For many manual workers, it can provide personal satisfactions which are rapidly slipping away in quantity-producing industries. For boys in school, it frequently is the one place where they may experience the pleasure of creativeness, for in its practice the degrees of emphasis upon the art phase and the craft phase vary greatly with what is undertaken and the way it is undertaken.

**Post-Secondary School Adjustment**

The term "post-secondary school adjustment" is used in this study to cover the responsibility of the industrial-arts department in the important guidance functions of placement and follow-up of the pupil. It
includes the graduate going on to college or advanced technical education, the graduate seeking employment in industry, and the "drop-outs", the "early leavers" who must also find a satisfactory place in industry and society.

Erickson and Smith discuss placement as a function of the school in the following terms: (28:119)

Placement should be regarded as an activity of the school that implies satisfactory adjustment to the next situation. Job placement represents only a single placement activity...

Pupils require assistance to understand the implications of their individual assets and limitations and then need to obtain placement in subjects, curricula, cocurricular and community activities that will best satisfy their training needs.

All authorities agree on the necessity for a central placement agency in the school, rather than a sporadic and unorganized series of placement efforts. Many schools having guidance departments turn this important function over to them.

With an effective organization, this policy has been very successful, and the industrial-arts departments have cooperated willingly. There is still a great unfilled need for further efforts in this direction. Joseph Miller deals with placement of students in the following terms: (55:271)

Of the 28,000 high schools in this country, only six per cent have counselors giving at least half-time to this work. Rothermel and
Davis found that only eight per cent of 350 Pennsylvania high schools had organized placement service. Whether placement is to be considered as an aspect of vocational guidance or is a distinct, though related, activity is a matter about which there is some difference of opinion. Many educators are convinced, however, that when the school assumes the responsibility of guiding and preparing a child for a vocation it can hardly avoid the responsibility for placing him in it.

Myers considers that the industrial-arts department has a valuable position for aiding youth to enter occupational life advantageously: (58:62)

Here again, in this matter of placement, the responsibility of the industrial-arts teacher may well be limited to those occupations closely related to the work of his department. In fact, in city-school systems that maintain well-organized central placement offices, serving all pupils leaving public secondary schools in the city, it is questionable whether the industrial-arts teacher should attempt to do any placement of his pupils directly. He should, of course, cooperate with the placement office. In cities where no central placement service is provided, he will have an opportunity to do valuable work of this character. If, however, his placement work is to be more than mere job-finding, he will find it necessary to become well-acquainted with employment officers in those industrial establishments where he hopes to place young workers, and to keep closely in touch with their requirements for such workers.

Jones asserts that "follow up and employment supervision are in many respects more important than placement. There are many problems that do not arise until the worker is actually on the job, and some of these are extremely difficult for the individual to solve without assistance". (47:375)
Traxler believes that there are three main purposes for the follow-up of school-leavers: (81:318) (1) The natural desire to help the individual with problems of vocational, educational and social adjustment after he leaves the school; (2) To gather data for use in evaluating the instructional and guidance programs of the school; and (3) To gather information of general interest concerning those who have left, in order to help all social agencies deal with the problems of youth more intelligently.

Germane and Germane say that the school has the responsibility for helping pupils through a follow-up program. They continue: (37:368)

Not only does a follow-up program help students on the job, but the answers of graduates to the placement bureau's letters and questionnaires, and to the personal inquiries of students themselves tend to vitalize the vocational possibilities inherent in all the offerings and experiences of the school.

Rothermel and Davis, in a study made in 1939, discovered that only 8 per cent of 350 Pennsylvania secondary schools conducted placement bureaus, and in even fewer schools is any follow-up work done with those who have placed in jobs. The report continues: (68:533)

Only three per cent of the schools report having made follow-up studies of pupils who had taken jobs in local industries; two per cent keep employment records; four per cent report that information is received about graduates in jobs through informal contacts; letter-
questionnaires are sent out by two per cent; and telephone check-ups are made by one per cent. In slightly over one-half per cent, senior occupations classes make follow-up surveys of recent graduates. While this report is disturbing, it compares favorably with most of the surveys that have been made of school leavers.

Myers comments that industrial arts has a useful function to perform in following up pupils. He says:

(58:62)

The first few months of employment life bring many new problems for the young worker. He may have to do, for a time, work quite different from that of his chosen occupation. Even though he obtains the kind of work he wants, he may find that his choice of occupations was unwise. Although his choice proves to have been wise and he finds work promptly in the chosen occupation, he may find working conditions unbearable in the first position, or he may displease his employer, or the employer may go out of business. If conditions in all of these respects are satisfactory, the need still arises for further preparation for the position held and for promotion to the next job ahead.

In meeting these problems, the young worker needs the help of a wise counselor. In the cases of those who are engaged in mechanical occupations closely related to the shopwork of the industrial-arts department, the teacher or teachers of industrial arts under whom they studied while in high school should be able to render them an invaluable service.

Erickson states that the teacher has a coordinate responsibility along with the counselor for follow-up studies of former pupils.

Myers says (58:65) that it is necessary that teachers of industrial arts be conscious of their responsibilities in follow-ups, and trained to meet them.
CHAPTER IV

INVESTIGATIONS AND FINDINGS

Approaches to The Study

In the attempt to determine the guidance values of industrial arts in secondary education, it appeared that many pertinent contributions could be gained from each of six avenues of approach. Any one of these avenues might be expected to improve understanding of the guidance possibilities in the field of guidance services. All avenues, carefully pursued according to recognized techniques of research, should establish certain widely accepted guidance values in industrial-arts education.

The six avenues of approach were as follows:
1. Historical development of guidance functions and philosophy in industrial-arts education.
2. Study of contemporary professional literature dealing with the relationship between industrial arts and guidance.
3. Reaction of 602 heads of secondary school industrial-arts departments from all parts of the United States to a questionnaire devoted to guidance services performed by their industrial-arts departments.
4. Reaction of ten state supervisors of industrial arts in response to the same questionnaire.

5. Reaction of nine state supervisors of guidance in response to the same questionnaire.

6. Reaction of ten recognized national leaders in the field of industrial arts to the questionnaire. The leaders were connected with college industrial-arts departments responsible for training industrial-arts teachers.

Procedure in Following Each Avenue of Approach

1. Historical development of guidance concept in the philosophy of industrial-arts education.

   Knowledge of the background of industrial arts is necessary for complete understanding of its possibilities for contributing to the program of guidance services in the modern secondary school. A comprehensive survey of the changes in educational philosophy of industrial arts is found in Chapter II. The survey reveals the shift in emphasis, from a policy of intensive training in manual skills for utilitarian or disciplinary purposes to the broad modern policy of using industrial-arts education as a valuable aid in counseling.

2. Study of contemporary professional literature dealing with the relationship between industrial arts and guidance services.
An analysis of contemporary professional literature reveals an increased awareness among nationally-recognized industrial-arts leaders of the need for general and specific guidance services to the individual pupil through industrial-arts education. It is almost impossible to find a recent industrial-arts publication which contains no reference to the guidance possibilities and values of industrial arts. Similarly, many of the recent publications dealing with guidance refer to certain contributions made by industrial arts to the guidance process. In addition to these services, guidance authorities list many general guidance services which are the responsibility of all teachers, including the industrial-arts teacher.

From a study of bibliographical sources, it is possible to see a clear picture of the guidance values of a well-planned course in industrial arts. Under the heading, "Statement of the Problem", leaders in industrial arts and guidance have been used as authorities to justify and explain the contribution of industrial arts to the guidance process.

3. Reaction of 602 heads of secondary school industrial-arts departments from all parts of the United States to a questionnaire devoted to specific guidance services rendered by their departments.
The study of the historical background and contemporary professional literature has been valuable in determining the guidance possibilities of industrial arts. Such material has been largely theoretical, however. It is now necessary to determine to what extent the industrial-arts departments and industrial-arts teachers are aware of their guidance responsibilities toward the individual pupil, and what specific services are being rendered in fulfilment of those responsibilities.

This approach has two aims: (1) To discover what guidance services are rendered by the industrial-arts department to the pupil, and (2) to determine the relationship between the industrial-arts department and the entire school in the performance of guidance services to the individual pupil.

It was decided to approach the problem by means of a questionnaire to the heads of secondary school industrial-arts departments, asking about the guidance services rendered as a part of the industrial-arts program.

4. Reaction of state supervisors of industrial arts to the problem of guidance values of industrial arts in secondary education.

A complete picture of the guidance values of industrial arts in secondary education is not possible if the problem is surveyed only from the point of view of the secondary school industrial-arts department. These department heads
can make an important contribution to the guidance program by carrying out the guidance policy outlined by policy-making administrators and supervisors at the state level. While the ultimate success of any program of guidance depends upon the local industrial-arts department, the state administrators and supervisors administer and supervise the policy which governs the extent of guidance activities in the school.

5. Reaction of state supervisors of guidance to the problem of guidance values of industrial arts in secondary education.

To avoid limiting the study and its conclusions entirely to industrial-arts departments and supervisors, it was decided that state supervisors of guidance activities should also be asked to contribute opinions about both theory and practice in the integration of industrial arts and guidance services.

6. Reaction of recognized national leaders in the field of industrial arts to the questionnaire dealing with guidance values of industrial arts in secondary education.

The national leaders in the field of industrial arts who are influencing and formulating present policies of industrial-arts instruction determine the future of the subject through the training of the teachers of the future. These men have a great deal of influence in
determining the relationship between industrial arts and the guidance program. Their reactions should indicate the pattern of development.

The Questionnaire

As previously explained, the specific guidance services covered by the questionnaire* have been grouped under four main headings, as follows:

1. Learning about the pupil.
2. Personal assistance.
3. Informational services.

The list of guidance services in the questionnaire was determined by a survey of contemporary literature in the field of guidance. Factors in pupil-adjustment most often mentioned by the guidance leaders which were also common to industrial-arts literature were included in the questionnaire. In addition, several contributions to individual understanding peculiar to the industrial-arts shop were included.

The list could have been expanded indefinitely to include all the minutiae of guidance. The main task in compiling the list of guidance services was in limiting the list to the important items without making the

*Copy of questionnaire in Appendix A
questionnaire so long as to be unwieldy or so short that it failed to include all important services.

The questionnaire was so phrased that a "yes" or "no" answer, or a check mark, would indicate activity in each service. However, no attempt was made to determine the degree or extent of activity in each listed item.

Distribution of the Questionnaire

In order to decide on the recipients of the questionnaire, it was necessary to compile an extensive list of schools in the United States which included industrial arts in their programs of study. According to all available information, there is no such list on a national basis. The United States Department of Education was unable to supply any assistance in compiling such a list, but supplied a partial list of state supervisors of industrial arts who might be able to assist in the compilation.

Letters to the forty-eight state departments of education produced, in some cases, lists of schools teaching industrial arts; in other cases, state educational directories were sent; and in a few cases, such information was not available, but possible sources of information were suggested. From all such sources, it was possible to compile a list of secondary schools in the United States which offered industrial arts in their programs
of studies. The list was arranged according to states. No attempt was made to differentiate between junior and senior high schools because the variation between school organizations in the different states made simple classification almost impossible.

The list of schools having been compiled, it was possible to select the group of heads of industrial-arts departments who would receive the questionnaire. Because of the great variation between states in number of departments, size of departments and other factors, it was impractical to use the usual percentage-sampling techniques. An arbitrary selection of recipients was made at random, as shown by the distribution list in Appendix A.

A total of 1867 questionnaires was sent to heads of industrial-arts departments in secondary schools all over the United States. There were 602 usable returns, and 61 uncounted returns. These uncounted returns included schools which had discontinued their industrial-arts departments and returns from departments of vocational education.

The questionnaire was sent also to twenty-eight state supervisors of industrial arts, with a letter explaining the purpose of the study. The supervisors were asked to mark the list of guidance services as either desirable or necessary.
Of the twenty-eight questionnaires sent to state supervisors of industrial arts, eighteen returns were received. In ten cases, the marked questionnaires were returned. In two cases, the marked questionnaire was returned with an explanatory letter. In six cases, the questionnaire was not returned, but a letter was sent giving the supervisor's opinion on the problem.

The questionnaire was sent also to twenty-five state supervisors of guidance. A letter explained the purpose of the study. It stated: "You would be making a valuable contribution to the study if you would answer the same questionnaire from the viewpoint of the state supervisor of the organized guidance program. Do you feel that secondary school industrial arts can contribute certain services to the guidance program?"

In this phase of the study, also, the recipient was asked to mark the list of guidance services as either desirable or necessary.

Of the twenty-five questionnaires sent to the state guidance supervisors, twelve returns were received. Four supervisors marked and returned the questionnaire without comment. An explanatory letter accompanied each of seven marked questionnaires. In one case, the questionnaire was not returned, but the supervisor sent a letter giving his opinion.
In an attempt to determine the reaction of national leaders and heads of college industrial-arts departments, a list of twenty-four nationally-prominent industrial-arts writers and teachers was compiled. Selection of the men on this list was determined by a study of contemporary industrial-arts literature, the list being limited to heads of college industrial-arts departments responsible for teacher education. The only exception was John F. Fries, whose articles and textbooks have influenced industrial arts. He is a professor of industrial arts, not a department head.

A questionnaire was sent to each of these men. They were asked to indicate which of the guidance services were desirable, and which were necessary in the secondary school industrial-arts department.

Of the twenty-four questionnaires sent to these leaders, fourteen returns were received. Nine of the returns were accompanied by a note or letter commenting on the problem.

Presentation of the Findings

The findings from bibliographical sources were arranged under the general classifications of the questionnaire. These findings are presented throughout the remainder of the study accompanied by tables and a summary and interpretation of questionnaire returns.
Personnel Records in the Industrial-Arts Department

The necessity for comprehensive information about pupils, systematically organized, has led to recognition of the need for complete personnel records. The proper functioning of the modern school, with its departmentalization and its heterogeneous intellectual and social groups, makes complete records of each pupil valuable. The teacher in the modern school may see a pupil for only a short period each day, and sometimes sees two hundred pupils during that day. He needs help to complete the picture of the pupil. Personnel records serve this purpose.

Complete understanding of the individual is helpful to instruction and guidance in the classroom. Traxler says that the most important purpose of personnel records is to improve instruction and guidance of each individual pupil, and that each item included in the records should be evaluated in the light of its contribution to pupil adjustment and development. (81:205)

Traxler also says that the value of personnel records is almost directly proportional to their use by classroom teachers. They should be open at all times to inspection by the teachers. If there are matters of record about certain pupils which are too confidential to be read by
everyone, they should be filed in a separate place.

(81:205)

Records should be used to be valuable. They should be used by the person who is close to the pupil and has the greatest opportunity to apply the techniques or methods indicated by the records. They serve the teacher as a systematic way of keeping a complete picture of the pupil during periods of change and growth, and as a reference source of information about that pupil.

Records of the industrial-arts department are generally of two types: (1) Those records of tools and materials, inventories and shop costs, and financial records of the pupil; and (2) records about the pupil as an individual. This study is concerned only with the second type. Just what personnel records should be kept by the industrial-arts department? Textbooks on industrial arts usually list records for inventories of equipment and supplies, and general progress charts. The progress charts are usually concerned with skills and knowledges, or the degree or rate of advancement in shop assignments. Wilber, however, (88:242) has suggested a progress chart based on behavior changes. This is more comprehensive, but still does not give a complete picture of the pupil.

The need for records in the industrial-arts department is recognized in contemporary literature. Hopkins
discusses their usefulness as follows: (42:75)

In most modern school systems, there are rather complete records which follow the student as he progresses from grade to grade. These contain not only his scholastic standing, but also information about his intelligence quotient, his health, and his personal characteristics. These records should be used by the teacher of vocational work and industrial arts especially in the cases of problem children...

Having made a special study of each case, the shop teacher is in a position to decide which cases need special help in order to develop that adaptability which seems essential to industrial success. Many of these boys have problems which are in no way related to health or intelligence quotient but are the result of antisocial attitudes built up over a period of years, and, with persistent study and effort, a great deal may be done to help them.

Hill recognizes the potentialities of record-keeping and record-using. He says: (41:185) "The industrial-arts teacher has a rich field which offers opportunities for intense application of cumulative case histories and all the other progressive trends in educational content and methods."

This study is concerned with the extent of personnel records kept by the industrial-arts department, and if the information from these records is sent to and used by other departments in the school. It is recognized that a centralised guidance or personnel department may have complete and extensive records that can be used by the industrial-arts teacher. However, in this study, only personnel records kept by the industrial-arts
TABLE 1
RESPONSES OF 602 INDUSTRIAL-ARTS DEPARTMENT HEADS ON RECORDS OF INDIVIDUAL PUPILS

<table>
<thead>
<tr>
<th>Items in the Industrial-Arts Department's Records of the Individual</th>
<th>Percentage of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Shop Records</td>
</tr>
<tr>
<td>a. Home background</td>
<td>25</td>
</tr>
<tr>
<td>b. Health status</td>
<td>23</td>
</tr>
<tr>
<td>c. Statement of unusual ability</td>
<td>30</td>
</tr>
<tr>
<td>d. Statement of unusual talents</td>
<td>28</td>
</tr>
<tr>
<td>e. Statement of leisure-time interests</td>
<td>30</td>
</tr>
<tr>
<td>f. Standardized test records</td>
<td>30</td>
</tr>
<tr>
<td>g. Interest inventory records</td>
<td>22</td>
</tr>
<tr>
<td>h. Informal shop-test records</td>
<td>68</td>
</tr>
<tr>
<td>i. Ratings of skills</td>
<td>44</td>
</tr>
<tr>
<td>j. Anecdotes of shop incidents</td>
<td>24</td>
</tr>
<tr>
<td>k. Shop achievement ratings</td>
<td>58</td>
</tr>
<tr>
<td>l. Record of projects completed</td>
<td>86</td>
</tr>
<tr>
<td>m. Units of work covered</td>
<td>87</td>
</tr>
<tr>
<td>n. Quality of work</td>
<td>87</td>
</tr>
<tr>
<td>o. Experience areas explored</td>
<td>60</td>
</tr>
<tr>
<td>p. Record of mechanical competence in areas explored</td>
<td>37</td>
</tr>
<tr>
<td>q. Work experiences outside school</td>
<td>21</td>
</tr>
<tr>
<td>r. Ratings and anecdotes of personality qualities</td>
<td>18</td>
</tr>
<tr>
<td>s. Ratings and anecdotes of social qualities</td>
<td>12</td>
</tr>
<tr>
<td>t. Ratings and anecdotes of emotional qualities</td>
<td>13</td>
</tr>
<tr>
<td>u. Information on other school activities</td>
<td>22</td>
</tr>
<tr>
<td>v. Occupational fields discussed</td>
<td>46</td>
</tr>
<tr>
<td>w. Statements of educational plans</td>
<td>28</td>
</tr>
<tr>
<td>x. Statements of vocational plans</td>
<td>33</td>
</tr>
<tr>
<td>y. Interview notes or summaries</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 1 deals with the reaction of 602 heads of industrial-arts departments to question one: (a) Does your shop record of each individual pupil contain the
following information? (b) Does your department supply these data to other school departments, and (c) Is the information collected by your industrial-arts department incorporated in the school's individual inventory?

TABLE 2

REACTION OF TEN LEADERS OF INDUSTRIAL ARTS ON THE CONTENT OF INDUSTRIAL-ARTS DEPARTMENT RECORDS

<table>
<thead>
<tr>
<th>Items Included in Records</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Home background</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>b. Health status</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>c. Statement of unusual abilities</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>d. Statement of unusual talents</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>e. Statement of leisure-time interests</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>f. Standardized test records</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>g. Interest inventory records</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>h. Informal shop-test records</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>i. Ratings of skills</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>j. Anecdotes of shop incidents</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>k. Shop achievement ratings</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>l. Record of projects completed</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>m. Units of work covered</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>n. Quality of work</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>o. Experience areas explored</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>p. Record of mechanical competence in areas explored</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>q. Work experiences outside school</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>r. Ratings and anecdotes of personality qualities</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>s. Ratings and anecdotes of social qualities</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>t. Ratings and anecdotes of emotional qualities</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>u. Information on other school activities</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>v. Occupational fields discussed</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>w. Statements of educational plans</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>x. Statements of vocational plans</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>y. Interview notes or summaries</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2 contains the responses of ten leaders in the field of industrial arts who were asked to indicate
(a) which of the items they considered desirable in the industrial-arts department's shop records, and (b) which were necessary.

**TABLE 3**

**REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS ON THE CONTENT OF THE INDUSTRIAL-ARTS DEPARTMENT RECORDS**

<table>
<thead>
<tr>
<th>Items Included in the Records</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Home background</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>b. Health status</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>c. Statement of unusual abilities</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>d. Statement of unusual talents</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>e. Statement of leisure time interests</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>f. Standardized test records</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>g. Interest inventory records</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>h. Informal shop-test records</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>i. Ratings of skills</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>j. Anecdotes of shop incidents</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>k. Shop achievement ratings</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>l. Record of projects completed</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>m. Units of work covered</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>n. Quality of work</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>o. Experience areas explored</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>p. Record of mechanical competence in areas explored</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>q. Work experiences outside school</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>r. Ratings and anecdotes of personality qualities</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>s. Ratings and anecdotes of social qualities</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>t. Ratings and anecdotes of emotional qualities</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>u. Information on other school activities</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>v. Occupational fields discussed</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>w. Statements of educational plans</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>x. Statements of vocational plans</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>y. Interview notes or summaries</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3 contains the reaction of ten state supervisors of industrial arts who indicated (a) which of the items
they considered desirable, and (b) which of these items were necessary.

**TABLE 4**

**REACTION OF NINE STATE SUPERVISORS OF GUIDANCE ON THE CONTENT OF THE INDUSTRIAL-ARTS DEPARTMENT RECORDS**

<table>
<thead>
<tr>
<th>Items Included in the Records</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Home background</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>b. Health status</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>c. Statement of unusual abilities</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>d. Statement of unusual talents</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>e. Statement of leisure-time interests</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>f. Standardized test records</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>g. Interest inventory records</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>h. Informal shop-test records</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>i. Ratings of skills</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>j. Anecdotes of shop incidents</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>k. Shop achievement ratings</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>l. Record of projects completed</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>m. Units of work covered</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>n. Quality of work</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>o. Experience areas explored</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>p. Record of mechanical competence in areas explored</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>q. Work experiences outside school</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>r. Ratings and anecdotes of personality qualities</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>s. Ratings and anecdotes of social qualities</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>t. Ratings and anecdotes of emotional qualities</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>u. Information on other school activities</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>v. Occupational fields discussed</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>w. Statements of educational plans</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>x. Statements of vocational plans</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>y. Interview notes or summaries</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 4 contains the reaction of nine state supervisors of guidance services who indicated (a) which of the items they considered desirable in industrial-arts shop records,
and (b) which of these items were necessary.

Findings concerning each of the twenty-five items included in the records will be presented separately, with supporting references from contemporary literature followed by summary and interpretation of questionnaire returns shown in Tables 1, 2, 3 and 4.

Home Background

Some knowledge of the pupil's home background is necessary to the teacher in understanding the motives and needs of the individual. Writers differ on the amount of background information needed, but they agree that such records are necessary for the teacher to have a complete picture of the individual. This need is well expressed by Frank G. Davis. He says: (17:282)

Importance of knowing home background.--The continuity of the child's experience from home through school clearly compels those who would guide the pupil to perceive him as a whole and distinct individual. His personality may be lost in the crowded classroom, but the teacher must strive to see him as the product of unique family experiences. Indeed, the present emphasis upon individualized instruction requires an understanding of home influences in child development. Moreover, to assume that pupil misbehavior and maladjustment are confined to classroom, club, and playground is to commit an obvious and absurd guidance blunder. The causes of bullying, docility, lying and truancy may often lie in the home, where correction can certainly begin and may frequently end.

Germane and Germane discuss some of the information which should be included in a record of the pupil's
home background, as follows: (37:126)

From interviews with parents in the home, from interviews with the student, from cumulative record cards, and adjustment questionnaires, information such as the following will be secured: With whom does he live—parents, relatives, or guardians; status of family life as between husband and wife, and as between parents and children; where does he live—hotel, apartment, or house; what is the cultural life of the home—low, average, or superior; number of children in the home; father's education, occupation and, approximately, his income; mother's education and interests; type of neighborhood in which he lives; kinds of books read by parents and children—unsatisfactory, average, superior; social companions and social life of the student in home and community—unsatisfactory, fair, superior.

Only one-fourth of the industrial-arts department heads keep records of the pupil's home background. However, the fact that almost one-half supply information of this type to the school records may indicate recognition of the value of such information.

The leaders and supervisors of industrial arts apparently do not consider information about the home background of major importance in the industrial-arts shop records. Slightly more than one-half indicated that such records were desirable, and almost none considered them necessary.

The supervisors of guidance indicated a greater awareness of the value of records of home background. Eight considered such information desirable, and two indicated that it was necessary.
Health Status

Some knowledge of the health status and history of the individual is desirable for pupil understanding. Health data form a part of the developmental history of an individual. There is an extensive array of health factors having possible value. Myers lists the following items as important in learning about the individual: (57:163)

Of course, the race, sex, and date of birth... are the first items that claim attention. Height and weight, when considered in relation to physical maturity, are important as indicating fitness or unfitness for certain types of occupational training. Physical handicaps, if any, should be considered, including hearing (percentage of normal for each ear); sight (percentage of normal and nature of correction made for the defect); color blindness; deformity of limbs or body (nature and extent of defect). Other items of information needed include condition of heart; condition of lungs; condition of nervous system; past sicknesses (nature of, when, how serious).

These records can be used as an aid in understanding educational and vocational possibilities, and have some value in understanding emotional maladjustment, delinquency, and mental backwardness.

The department heads apparently attach the same value to health records that they have previously indicated for records of home background. About one-fourth keep such records, and slightly less than one-half supply such information to the school records.

The leaders and supervisors of industrial arts are
in almost complete agreement on the records of the pupil's health, slightly more than one-half indicating that such information is desirable in the shop records, but only one leader considering it necessary.

The guidance supervisors appear to attach more importance to records of the pupil's health status than do industrial-arts teachers and leaders. More than two-thirds of the supervisors considered health records desirable, and two considered them necessary.

**Statements of Unusual Abilities**

Statements of unusual abilities are helpful for placement purposes. Matching the qualifications of the individual with the requirements of a job, or with the qualities required for further education make the use of this type of record valuable. Outstanding abilities in special fields frequently compensate, from the viewpoint of the prospective employer, for average or lower ratings in other fields.

The placement of an individual in a field of work or education to which he can adjust satisfactorily can often be accomplished by records of his special abilities.

Ability is the power to perform responsive acts, including complex coordinated movements and solution of mental problems. (85:1) The Stenquist tests of mechanical ability represent one type which would contribute much to
understanding in the industrial-arts department.

Erickson lists as one of the essentials of successful pupil-planning programs the record of abilities and aptitudes (academic, vocational, and personal). (29:193)

Questionnaire returns indicate a slightly higher degree of importance attached to statements of unusual abilities. About one-third of the department heads, more than one-half of the leaders, and nearly all of the supervisors of both industrial arts and guidance consider this information valuable in the shop records.

**Statements of Unusual Talents**

A talent is a natural aptitude which renders the possessor susceptible to a high degree of training in some specific field. (85:272) Records of talents are especially important in planning future education. Major emphasis of training can be directed toward those fields where the records show the pupil to have a pronounced talent.

Records of talents can be used for placement. This is true particularly where early school-leaving interrupts the educational process and the individual must continue his training in industry. The training resulting from employment in fields related to the special talent should aid in developing a high degree of performance. The pupil should be aided to recognize any special
talent and encouraged to develop it to the utmost.

Statements of unusual abilities and statements of unusual talents are considered about equally valuable, according to questionnaire returns. Almost one-third of the department heads, more than one-half of the leaders, and nearly all of the supervisors consider this information desirable in the school shop records. Only about one-fourth of the industrial-arts departments supply statements of the unusual talents and abilities of the pupil to other school departments, where they might also be valuable in teaching or counseling the pupil.

Statement of Leisure-Time Interests

The proper use of leisure time has become an important aspect of education. The educator's interest in all phases of individual development is reflected in an increasing concern with the way the individual spends his leisure time.

Germane and Germane find that youth is aware of the significance of leisure and hobby interests. They say:

(37:41)

Youth are becoming aware also of the educational values incident to participation in leisure activities, from both a vocational and avocational standpoint... Other students are beginning to realize that possibly their emotional and physical health and their social and vocational advancement are considerably determined by their wholesome participation in the leisure and hobby activities of the school.
They further emphasize the necessity for records of the leisure-time interests as follows: (37:491)

Knowing a student's particular hobby makes it possible for the teacher to make assignments in line with his hobby interests, which often results in a spread of interests to subject-matter fields. Knowing a student's interests may throw considerable light on his temperament, his aesthetic development, and the maturity of his social, emotional, and intellectual development. Knowing his hobby interests may be the counselor's best approach to helping the student who seems to have no vocational interest to build one.

The use of all available data concerning the leisure-time interests of the pupil may be valuable in assisting him to project future educational and vocational plans. It may also aid in understanding his emotional and social problems. Records of leisure-time interests thus add to the factors that make a complete picture of the individual.

Only about one-third of the industrial-arts department heads keep records of the pupil's leisure-time interests, while nearly all of the leaders consider such records desirable, and more than two-thirds of the supervisors of both industrial arts and guidance recognize their value.

Standardized Test Records

Regardless of the type of standardized test given, the way in which the results are used determines its value. Records of any test results are necessary. This
study is concerned with test records as a means of providing a better picture of the individual, so that he may be aided to better life adjustment.

Records of standardized tests should be kept in a convenient place where they will be accessible for reference and study. These records should include not only results of specialized tests, but also the results of general tests. Ross emphasizes this point as follows: (67:105)

"The classroom teachers need to have several kinds of records and information, most of which they can prepare for themselves. Every teacher needs, first of all, a complete test record sheet for all his pupils."

Erickson, discussing learning about pupils, states: (27:15)

"If tests are to be given, the results should be reported on the cumulative record. The date the test was given, name of test, form used, total scores, and translated (I. Q., Percentile, rank) results should be recorded."

Landis discusses tests and test records which may be useful in the industrial-arts department as follows: (52:23)

There are four more or less distinct types of quantitative measurements which the industrial-arts supervisor can use in teaching. They are:
1. School marks.
2. Intelligence tests
3. Special subject tests
4. Special prognosis and aptitude tests.
Questionnaire returns indicate that almost one-third of the industrial-arts department heads keep records of standardized tests, while two-thirds of the leaders and supervisors of industrial arts consider them desirable. Nearly all of the supervisors of guidance services consider such records desirable in the industrial-arts shop. The department heads, however, indicate an awareness of the values of these tests by the fact that forty per cent include this information in the pupil's individual inventory.

**Interest Inventory Records**

Records of interest inventories are valuable as a guide to the teacher in counseling the pupil. The record may be a profile, outlining his strong and weak interests or it may be a score type, showing which of the individual's interests are strong enough to indicate probable success in a vocational choice.

Germane and Germane classify interest as one of the three basic criteria for choosing a vocation. They continue: (37:380)

"While interest alone does not insure success in an occupation, it is a potent factor... Interest in an occupation keeps one alert concerning his job and stimulates one to seek means of improving techniques which make for efficiency and expertness leading to success."
Records of interest inventories are needed to assist the pupil in arriving at an occupational choice. Darley says (16:114) that the best measurements of interests are those which attempt to get the student to express choices among a wide range of activities to which he has been exposed, rather than asking him to express preferences for specific occupations about which he can have only limited information.

Interest inventory records, therefore, should assist in bringing about some stability of choice, or indicate needed preparation in line with the pupil's greatest interest.

The industrial-arts department heads indicate an apparent lack of interest in interest inventory records, only one-fifth keeping such records. On the other hand, two-thirds of the leaders and supervisors of industrial arts consider such records desirable, and nearly all of the guidance supervisors consider interest inventories a desirable part of the shop records.

**Informal Shop-Test Records**

Informal shop tests are not always of sufficient importance to warrant devoting much time to them in preparing records of the results. If they indicate a change of behavior or achievement, or a level of development, records should be made. They should be of
such a nature that they will have some significance for future counseling of the pupil.

Diederich suggests a summary report by the teacher, the nature and function of which is described as follows:
(22:209)

After every important test or examination, whether standardized or home-made, the teacher would do well to prepare a brief report covering the nature of the group which took the test, the nature of the test and how the group was prepared for it, the highest, lowest and middle scores, and the national norms if they are available. This statement might be mimeographed and one copy put in the folder of each pupil who took the test. On these copies should be typed or written the pupil's score or standing in the test, what this meant, if anything, with relation to the objectives of the course, and some comment as to strengths and weaknesses shown, progress or decline, and possible reasons. Such statements should not take long to prepare, and they would be immediately valuable in counseling. Perhaps no other occasion in the normal processes of school life offers such ripe opportunities for helpful counseling. If tests and examinations are worth giving, they are worth recording and interpreting in a form which will enable those responsible for the pupil's education to act intelligently upon them, and to draw sound conclusions from them.

Wilber lists two examples of shop tests as evaluation instruments for industrial-arts shops, which measure behavior changes in terms of objectives. (88:315)
The first is the vocabulary test given at the beginning and end of the term. This should indicate a growth in the vocabulary as an outcome of becoming oriented to an industrial civilization. The second is "thinking and problem-solving" with the use of industrial-arts data.
This involves the ability to make assumptions, to interpret data, to test assumptions, and to apply principles. Complete measurement would take into consideration growth in all these areas.

All of the groups represented in the study indicated a high degree of awareness of the value of records of informal shop tests. More than two-thirds of the department heads keep such records, and three-fourths of the leaders of industrial arts and the supervisors of guidance consider them desirable. All of the supervisors of industrial arts consider these records desirable.

**Ratings of Skills**

The rating of achievement of skills is usually for the purpose of giving a grade. Since it is often difficult for the parent of the pupil to evaluate certain intangible behavior changes or progress in pupil adjustment, it has been the practice to give a rating in the acquisition of manipulative skills in industrial arts. The instructor ordinarily uses a type of scale or checklist, indicating degree of efficiency and type of workmanship in the production of a specified project. The pupil is rated on this scale. The rating has the disadvantage of being almost entirely subjective. Ericson also comments that in the development of manipulative skills, effort has sometimes been mistaken
for accomplishment. (30:202)

Wilber discusses the rating of manipulative skills in the following terms: (88:315)

The development of a certain degree of manipulative skill is an objective of most industrial-arts courses. It has been common practice to measure development in this area by grading the completed project. That this method leaves much to be desired can be demonstrated by having any group of teachers give individual grades to several projects. Experience seems to indicate that a single project may range all the way from excellent to failure, according to the standards of the teacher who gives the grades.

In the ratings of skills, questionnaire returns show that the leaders of industrial arts and the supervisors of both industrial arts and guidance consider such records extremely important, nearly all of these men indicating that they are desirable, and nearly one-third considering them necessary. Less than one-half of the department heads keep records of ratings of skills.

Anecdotes of Shop Incidents

Within the last twenty years, some schools have begun to use anecdotal records—the setting down of an anecdote concerning some aspect of pupil behavior which seems significant to the observor. These anecdotes, taken singly, are nearly worthless for improving pupil-understanding, but a group of such anecdotes about an individual may contribute to a personality-picture.

Traxler says about anecdotal records: (81:139)
In order to be successful in preparing anecdotes, teachers must learn to observe the behavior of pupils accurately, to remember what took place, and to make a record of each incident later when they are free to give their entire attention to the writing of anecdotes.

Erickson cautions (27:23) that the anecdote should describe the behavior and not the observer's impressions. The behavior noted should be significant. Williamson and Hahn (92:151) state that the facts should be recorded in a straight-forward manner followed, in some cases, by the teacher's own guess as to what the behavior means. Williamson and Hahn continue: "By means of this anecdotal technique the valuable but fragmentary counseling data known only to individual teachers may be utilized in making a more complete case study".

The industrial-arts department heads apparently attach slight importance to anecdotes of shop incidents, only one-fourth keeping this type of records. Less than seven per cent supply this information to other school departments for their use in counseling. One-half of the leaders and supervisors of industrial arts consider them desirable, but none consider them necessary. On the other hand, all of the supervisors of guidance services consider anecdotes of shop incidents desirable in the shop records, and three consider them necessary.
Shop Achievement Ratings

The term "achievement" applied to the industrial-arts shop is more inclusive than "attainment of skills". This over-all rating should represent the grade of the pupil. The record should show what components went into the grade, and the weight or value of each component.

Ericson devised means for determining achievement. He listed several such means, as follows: (30:204)

1. Comparing results with original objectives.
2. Comparing the work with similar work of others.
3. Mechanical-progress chart.
4. Written tests and examinations.
5. Manipulative tests.

Newkirk and Greene discuss achievement ratings as follows: (59:73)

Achievement in the industrial subjects is not entirely a matter of information. Ability to perform a task does correlate with knowledge about the task, but this relationship does not seem to be sufficiently big to warrant the exclusive use of pencil-and-paper tests for the measurement of achievement in the industrial subjects. Accordingly performance as well as informational types of tests are needed in this field.

Ericson comments about the value of keeping such records in the following paragraph: (30:201)

Two types of services may be rendered through permanent records of this kind: one is in connection with students who move to other schools and school systems; the other has to do with recommending students for jobs in industry. Years after a student has left the department, there may be a request for this information, and, if no other records than "pass" or "fail" are
available, such recommendations cannot be made personal. The mechanical progress chart... is of great value as a record to go with the student from one school to another or for future reference when advising students regarding courses.

Ratings of shop achievement are considered extremely important by all groups who answered the questionnaire. Almost two-thirds of the department heads keep such records, and one-fifth supply the information to other departments in the school. All of the leaders of industrial arts consider them desirable, and seven indicate that they are necessary. Nearly all of the supervisors of industrial arts and guidance consider such ratings desirable in the shop records.

Records of Projects Completed

The list of projects completed by each pupil is important in every industrial-arts system of records. This is not only useful for counseling purposes, but also for proper functioning of the shop. In shops where the pupil is allowed a choice of project, the type chosen can often throw light on the current interests of the pupil. His attitude toward the work is also reflected by his choice. The stages of pupil-development can be determined to some extent by the list of things he has made. This is often valuable in assisting him to plan future work or in recommending him for placement.
Wilber says of records of projects: (88:246)

While projects are not considered as ends in themselves, but rather as means toward an end, yet the character and number of projects completed is probably some indication of the extent to which the objectives of the course are being attained. It is important, therefore, that some record of them be kept. Such a record should indicate the name of the project, the degree of skill exhibited, and the amount of time required for its completion. It may also be desirable to record the cost of the project to the student.

Questionnaire returns indicate that records of projects completed is considered one of the three most important items in the shop records. Almost ninety per cent of the department heads keep such records, while all of the leaders and supervisors of industrial arts and all the supervisors of guidance consider them desirable.

Units of work covered

Some shops are operated on the unit plan. The units are units of work or instruction. The records of the units completed are valuable in the same way that records of projects are valuable, and can be used as a factor in assisting the pupil. They may be helpful in assisting him to plan future work or in recommending him for placement.

The units of work are more comprehensive and include more items than do projects. Records of units covered by the pupil are helpful in showing his advancement and the type of material and work he has experienced.

Because of the lack of uniformity between
industrial-arts departments and even courses in any single department from year to year, a record of these units would assist in proper direction of the pupil.

Records of units of work covered are also among the three most important items in the shop records, according to questionnaire returns. Again almost ninety per cent of the department heads keep such records, and all of the leaders and supervisors indicate that such records are desirable.

**Quality of Work**

Quality of work is considered one of the important factors in grading. (30:191) It has a more important implication in that it reflects manual ability. The value of a record of quality of performance lies in evaluation of comparative excellence of a piece of work, or in a change in quality of performance over a period of time.

Newkirk and Greene discuss the importance of records of quality of workmanship in the following paragraph: (59:47)

The quality of a project depends on how well the various tool operations have been executed, assuming, of course, a constant quality of material. It is the composite results of the type of material used and the skill with which it was worked. Quality involves such factors as squareness, roundness, finish, fasteners, exactness of dimensions, accurate placement of parts, etc.
Quality may be scored by physical measurement, by the use of scales, and by general observations of the student's procedure and project.

Records of quality of workmanship are valuable in meeting the vocational and recreational needs of the pupil as well as aiding in pupil-diagnosis for manual dexterity.

The questionnaire returns reveal that quality of work is also one of the three most important items of information in shop records. In this item, also, almost ninety per cent keep such records, and all of the leaders and supervisors consider shop records of quality of work desirable.

The three types of records just discussed, records of projects completed, units of work covered, and quality of work, were, apparently, considered much more valuable than any other type of shop records by all four sources. However, not more than one-fifth of the department heads furnished information on any of the three items to other departments in the school, and less than one-sixth included the information in the school's individual inventory.

**Experience Areas Explored**

Industrial-arts shops are sometimes organized on a basis of experience areas. Each area represents some phase of industrial life. The general shop organization allows for several areas in one shop, while the unit shop
has but one area. However, there are, or may be, several units in a department, each representing a different area. These areas are a means of permitting the pupil to explore his abilities and interests in each represented field. A record of each field experienced by the pupil should prove valuable in assisting him to evaluate himself in terms of that particular field of work.

A record of experience areas explored by each pupil may be useful if the pupil should change schools, or would prevent duplication of work in the same school.

A record of experience areas explored has another value in directing the pupil. Industrial arts offers little as an exploratory tool if only one experience area is explored. The shop in which only one area, such as woodworking, is studied year after year, from beginning woodworking to cabinet-making, has slight guidance value. The chief value of the industrial-arts shop as a tool of exploration lies in presenting a number of fields of experience, which the pupil may sample at will. Records of the areas, and the interest and achievement in each, will be useful in assisting the pupil in his vocational, educational and avocational problems.

Such records of experience areas explored are apparently considered rather important by the majority of those answering the questionnaire. Of the department
heads, three-fifths keep this information in the shop records for their own use, but only about one-tenth supply the information to other departments or incorporate it in the school records. Almost all of the leaders and supervisors consider records of experience areas explored desirable.

**Record of Mechanical Competence in Areas Explored**

A knowledge of the mechanical competence of a pupil in the areas of industry explored in the industrial-arts shops will be of assistance to the teacher or counselor. The reasons for any differences in competence should be noted. Pupils who excel in the woodwork area may do poor work in art-metal or printing. Knowledge of these differences should be recorded, and any contributory factors included in the records.

Newkirk and Greene discuss recording of mechanical competence in terms of measuring and recording techniques. They say: (59:48)

In general, the individual who manipulates the tools, machines, or instruments in the shop or at his desk in the most direct and efficient manner has the best techniques. A pupil with good technique can improve his skill to the maximum of his ability by practice. Before technique can be measured it is necessary to know just what constitutes the best technique for using different tools and machines for different purposes. To measure technique, therefore, it is necessary to emphasize the best shop procedures for the tools used in the course.
and then check the technique of the pupil being tested through observation. Tests of this type are especially helpful in diagnosing pupil difficulties in the manipulative phases of the course of instruction.

The questionnaire returns indicate a difference of value ascribed to records of mechanical competence between the department heads on the one hand and the supervisors and leaders on the other. Slightly more than one-third of the department heads keep such records, but nearly all of the leaders and supervisors consider such information desirable in the shop records, and five of the leaders indicate that this information is necessary.

Work Experiences Outside School

The industrial-arts department is interested in any knowledge of the industrial world which the pupil may have acquired. Work experiences outside the school, especially for the older pupils, are common. Records of these experiences should be used for making future plans. Such experiences are particularly valuable in placing a pupil or recommending him for a job.

Work experience, says Weber, is a term applied to one method of bringing reality into the program of the school. He continues: (86:355)

It is a means and method in the program of the school by which the learner actually produces useful goods or renders useful services through participation in socially desirable work activities in the community.
Reed considers data secured from work experiences helpful in counseling. She states: (64:161)

Information relative to work experiences, either in full- or part-time jobs, is always valuable data for counselors. It helps to determine interests, supplements aptitude tests, affords opportunities to combine the practical with the theoretical, and suggests educational programs and exploratory avenues. Remunerated work experiences do not, usually, enter the picture until the requirements of compulsory education and child-labor laws have been met, but there are some opportunities for exploratory and cooperative courses on the secondary level which have definite guidance values.

The industrial-arts department heads apparently attach only minor importance to information about work experiences outside the school as a part of the shop records. Only one-fifth keep such records. However, more than two-thirds of the leaders and supervisors of industrial arts, and all of the supervisors of guidance activities consider this information a desirable part of the shop records.

Ratings and Anecdotes of Personality Qualities

A personality rating can be helpful for each pupil. Personality tests or rating scales are often used, and the results can be valuable in understanding the individual and assisting him toward improvement or adjustment. The anecdotes of behavior incidents in the shop and in other departments should serve as a part of the personality record.

Jones says of the importance of personality: (47:179)
The importance of personality in life can hardly be over-estimated. Getting a job, keeping it, and promotion are all clearly affected by personality traits. Some studies have shown that as much as eighty per cent of first jobs and seventy-five per cent of promotions were due primarily to personality qualities. Another study showed that ninety per cent of dismissals were due not to lack of skills but to personality factors, mostly lack of social adjustment and emotional instability.

The importance attached to studies and anecdotes of personality is justified by the following statement from Newkirk and Greene: (59:173)

Personality can be modified and improved through diligent effort over a period of time, but it is not a simple task which can be accomplished in a few weeks or months. Personality needs always to be modified and developed in the light of changing social and vocational conditions.

Ratings and anecdotes of personality qualities are apparently not too highly considered in the shop records. Less than one-fifth of the department heads keep such information in the shop records. Slightly more than one-half of the leaders consider this information a desirable part of the industrial-arts department's records.

Ratings and Anecdotes of Social Qualities

The pupil in the shop, because of the freedom of the shop environment, experiences a new type of social relationship. Anecdotes of his reactions to various social relationships in his work will illuminate many features of his social adjustment. Records of social adjustment
tests add to the information needed for a total picture of the individual.

Myers considers records of social qualities important to the understanding of the pupil. He says: (57:229)

"However complete and accurate the information may be which is brought together concerning an individual as a result of tests, inventories, scales, and other measuring instruments, it is still desirable to obtain considerable data concerning his social environment."

In addition to information about the home life of the pupil and the pupil's associations outside the home, Myers lists records of the following as important: (57:231)

1. Clubs, "gangs", societies, and other neighborhood groups of which the pupil is a member.
2. The pupil's recreations of all kinds: amount and character of voluntary reading; the type, extent, and environment of his social activities, his amusements, and his physical recreations.
3. Interests as reflected in travel: Where has he been, and what were his strongest interests in travel.

The industrial-arts department heads apparently consider ratings and anecdotes of social qualities the least important of all twenty-five listed items in record-keeping. Slightly more than one-tenth keep such information in the shop records. One-half of the leaders and one-third of the supervisors of industrial arts consider this information desirable, and more than two-thirds of the guidance supervisors indicate its desirability.
Ratings and Anecdotes of Emotional Qualities

Emotional stability is often the deciding factor in the total adjustment of the pupil. Opportunities for observation of emotional control are frequent in the industrial-arts shop, and should be recorded to contribute to the total personality picture of the pupil.

Jones makes a statement of the importance of the emotional life in pupil adjustment, as follows: (47:197)

The importance of the emotional life of the individual in determining his conduct is too apparent to need discussion. Emotions are our most fundamental instincts and powerfully affect all our behavior. Differences in kind and amount of emotions often tend to obscure or even to counteract other differences, even those of general intelligence.

Germane and Germane say: (37:424) "No area of experiencing is more challenging than the emotional. The teacher's great needs are a deep and wide knowledge of the psychology of human adjustment and more time to apply this knowledge in the solution of the problems of her students." They continue with some suggestions for the prevention, alleviation and elimination of student maladjustments:

1. Try to recognize early in the student's life all symptoms of maldevelopment, both social and emotional.
2. Help the student to realize the necessity for making an analysis of his many abilities, interests, and needs, and of choosing tasks and setting up goals which he can reasonably attain.
The department heads indicated that they considered ratings and anecdotes of social qualities next to the least important of all the items in records, about one-eighth keeping such information in their records. One-half of the leaders and one-third of the supervisors of industrial arts consider such records desirable, and more than two-thirds of the guidance supervisors indicate their desirability.

It may be significant that, although so few of the department heads keep information about the personality, social and emotional qualities of the pupils in their shop records, about one-fifth incorporate such information in the school's individual inventory.

Information of Other School Activities

The school program should include provision for assisting pupils toward the opportunities provided by the school and community and toward long-time educational and vocational opportunities. One of the best methods of doing this is through extracurricular activities.

The school activities outside the regular curriculum offer invaluable aid in pupil adjustment, since the activities chosen almost invariably reflect the interests and abilities of the pupil. A continuing record of such activities may be helpful in counseling the pupil.
Germane and Germane have this to say of the opportunities inherent in extracurricular activities: (37:411)

Few school situations excel those incident to clubs, homerooms, student councils, and assemblies as a means for helping students to overcome adjustment patterns inimical to their present and future success. Socialization in its broadest sense is possibly the greatest need of youth. The number of opportunities for a student to develop courage and social competence in all the areas of human relationships is almost legion in a comprehensive and well-administered program of proved and tested extracurricular activities.

Information on other school activities is, apparently, not considered an important item in the shop records by the department heads. Only about one-fifth include such information in their records, but one-fourth supply this information to the school's individual inventory. The leaders of industrial arts appear to consider this item the least important in the list of twenty-five items, but the supervisors attach more value to it, over one-half indicating that it is desirable.

**Occupational Fields Discussed**

Records of occupational fields discussed or studied by the pupil, with any aptitude tests, interest records, or observed reaction to experience in these fields, constitute an important force in counseling.

Friese states that explorations, or firsthand study of occupations through tryout experiences, assist in laying the foundation for life adjustment activities: (34:129)
Helping to prevent occupational misfits is economically sound and socially desirable. Industrial arts assists in this through its directing influence on a boy either toward or away from industrial occupations as a group. Sometimes it helps him to find a particular trade or industry in which his capacities, aptitudes, and possible abilities lie.

A pupil in the industrial-arts shops may investigate many occupational fields, finally rejecting some or all as unsuitable. A record of his experiences will be helpful in directing him toward or away from an occupation to which he cannot adjust satisfactorily.

Lush, in a discussion of occupational information, states: (53:278)

It is apparent that chance plays all too large a part in the individual's selection of an occupation. Attempts to acquaint students with many occupational fields about which they know nothing, or very little, will eliminate a part of this haphazard selection, and no doubt lessen the number of occupational misfits to aid in making a better civilization.

The department heads seem to consider records of occupational fields discussed one of the more important items, nearly one-half including such information in their shop records. More than two-thirds of the leaders, industrial-arts supervisors and guidance supervisors consider such records desirable.

**Statements of Educational Plans**

Every pupil in the school has formulated some type of
educational plan. It may be vague, unrealistic, parent-dominated, or (occasionally) well-organized. Any teacher interested in learning about the pupil must have an idea of the pupil's educational plan, taking into consideration various factors that may influence its fulfillment.

Dressel says that the following factors must be considered in educational planning: (24:211)

1. The attitude of parents toward education.
2. The prestige implications of college education.
3. Financial status.
4. The student's interests.
5. Intelligence and aptitudes of the student.
6. The student's past achievement.
7. The student's immaturity.
8. The student's vocational goals.

Dressel continues: (24:212)

In some cases all factors will be important, while in others, only one may be important... Thus, for a particular student, everything may point to the desirability of a college education, but there may be no funds available and the family may even need the financial assistance of the son or daughter. This might turn the problem into a financial one, or again into an emotional one because of the student's inability to cope with the disappointment. These possibilities are sufficient to suggest that problems of educational planning are not always to be solved easily.

For the above reasons, the teacher should have, in addition to a statement of educational plans, a summary of as many of the listed contributory factors as it is feasible to obtain. Satisfactory counseling may be difficult without most of these factors.

Slightly more than one-fourth of the department heads keep statements of the educational plans of the pupils in
their shop records, while more than one-half of the leaders and supervisors consider such information desirable.

**Statements of Vocational Plans**

A pupil formulating his vocational plans may be influenced by many factors toward an inappropriate vocational choice. The teacher should have records of the vocational plans of all pupils, with an analysis of the pupil's strong and weak points in relation to job demands.

Any vocational choice is inappropriate, says Darley, if:

1. It requires much more or much less general scholastic ability than the student possesses.
2. It requires special aptitudes which the student does not have in sufficient amounts.
3. It requires a different pattern of occupational interests and personality than the student may show.
4. It requires an amount of training which the student cannot possibly afford.

The teacher's records may contain some or all of the following information says Dressel:

1. Determine what occupations the student has considered and the reasons for each.
2. Determine what occupations may have been rejected and the reasons therefore.
3. Determine what vocational experiences the student has had and his attitude toward them.
4. Consider the implications of hobbies, interests, and extracurricular activities.

The Tables reveal that one-third of the department heads keep statements of the pupil's vocational plans in
the shop records. However, nearly all of the leaders and supervisors consider this information desirable in the industrial-arts department records.

It is to be noted that the department heads appear to be aware of the importance of such statements of educational and vocational plans, for one-fifth supply this information to the school's individual inventory.

**Interview Notes or Summaries**

The industrial-arts teacher will have many opportunities for informal interviews during the course of the school year, and many will arrange periodic formal interviews. A variety of problems, ranging from mechanical problems encountered in shopwork to problems of pupil adjustment will be handled. For the teacher to have a complete picture of the personality and problems of these pupils, each interview may be briefly summarized, and these summaries placed with the records of the individual. Darley says of the importance of interview records: (16:180)

However skillfully one may interview a student, the sheer memory falsification and memory loss to which everyone is subject may make the interview useless unless it is immediately recorded or summarized in some way. Therefore, it is essential that the interviewer be aware of the importance of keeping case notes and interview records.

Williamson and Hahn contribute valuable suggestions
In making a record of the interview, part of which may be entered while talking with the pupil if this does not interfere with the success of the interview, and part after he leaves the office, the counselor will check the accuracy of information already on file concerning the pupil and will supplement this with additional information called for on the record blank to which references have already been made. He may wish to add a few brief memoranda of things about the pupil that impress him as significant, though he will have to guard against placing too great value upon hastily formed impressions.

The department heads apparently attach little importance to keeping interview notes or summaries in the shop records, since less than one-fifth indicate that they keep such information. One-half of the leaders, and two-thirds of the supervisors consider interview notes and summaries a desirable part of the shop records.

Summary of Personnel Records in the Industrial Arts Department

The need for accurate personnel records in pupil assistance has been emphasised by authors and leaders in the fields of industrial arts and guidance. However, there is not complete agreement among the authorities on the types of information most valuable in the industrial-arts department records.

The industrial-arts department heads apparently consider most valuable those records of the individual which contribute to assigning grades and making comparative
ratings. The items "records of projects completed", "units of work covered" and "quality of work" were most often kept, followed by "informal shop-test records", "shop achievement ratings", and "experience areas explored". Information least often kept in the records concerned personality, social and emotional qualities.

The department heads indicated that they did not supply much information about the pupil to other departments. Fewer than one-fifth supplied shop achievement ratings and ratings of quality of work to other departments. The remainder of the items were supplied much less frequently.

The department heads apparently recognized the usefulness of some of the items in the school's individual inventory. Almost one-half contributed information about the home background, health status and standardized test records of the pupil to the school inventory.

The leaders of industrial arts appear to consider all of the items desirable, and many of them necessary in the shop records. They agree with the department heads in considering most desirable those items dealing with the quality, quantity and types of work. However, only one item, "information on other school activities" was indicated as desirable less than one-half of the time. "Shop achievement ratings" and "quality of work" were considered most necessary.
The supervisors of industrial arts followed the same general pattern as the department heads and leaders, considering most desirable those items concerned with quality, quantity and types of work. They considered least desirable items dealing with personality, social and emotional qualities and information on other activities. Not more than two considered any item in personnel records necessary.

The guidance supervisors appear to be more conscious of the actual and potential values of personnel records in industrial arts than do the other groups answering the questionnaire. Each item was considered desirable by at least two-thirds of the supervisors. About one-third of the supervisors considered items concerned with shop-work necessary.

The Standardized Test Program in the Industrial Arts Department

One of the desirable aids in understanding the pupil is a program of standardized tests of general and special areas. In many schools, the testing program is taken over by the administrative office, or by the guidance department, or by a special testing department. In other schools, there is no organized testing program. The teacher who wants the information available from standardized tests and has had the necessary training in
administering and interpreting such tests sometimes assumes this responsibility.

While it is necessary that the test be administered and interpreted by trained personnel, the use of such tests does not stop with the interpretation. Test records, both of general and specific fields, should be interpreted and made available for all teachers to use in counseling individual pupils.

"Just as there is no standard guidance program, so there is likewise no standard testing program adapted to all schools." (16:92) Each school must determine the tests that are essential to successful guidance in that particular locality, taking into consideration local factors. The testing program, however, must be a cooperative program. Ross says: (67:179)

As a rule, the program should not represent the judgment of any one person alone, but that of a group... The entire staff should have a voice in determining the purpose of the program and in formulating the plans, and all should have the opportunity of participating in it in every way possible from beginning to end. If this is not done, the teachers are not likely to fully understand the program or to appreciate what it is attempting to do.

The data which have been found useful for purposes of guidance may be classified in three ways: data concerning the pupil's intelligence, his special aptitudes, and his personality traits. (21:169)
Newkirk and Greene have attempted to determine the measurable factors in industrial education. They have this to say: (59:43)

It is the purpose of this chapter to point out some of the measurable factors in industrial education. These factors present a real challenge to teachers of industrial education. Educational guidance and shop instruction both would be markedly improved through the measurement of these factors and the wise use of the results in the classroom. These measurable factors are enumerated:

1. Information  
2. Quality  
3. Technique  
4. Speed (rate of response)  
5. Reading technical symbols  
6. Reading  
7. Spelling  
8. Mathematics  
9. Appreciation of industrial products  
10. Planning  
11. Language  
12. Inventiveness  
13. Personality traits  
14. Mechanical aptitudes  
15. Intelligence  

Newkirk and Greene have also devoted part of their discussion to the problem of administering industrial education tests. They state: (59:54)

The matter of determining the responsibility for giving and scoring educational tests rests chiefly upon the function the tests are expected to perform. If the tests are of the narrow-function type, closely paralleling the course of study taught by the teacher, they should undoubtedly be given by the teacher himself. If they are designed for survey purposes, or if the results are to be used for experimental, supervisory, or research purposes, they should probably be given by some one representing the administrative office of the school.
The second question in the questionnaire concerned with the types of tests included in the industrial-arts department's standardized test program, and the extent to which information gained from the tests is supplied to other departments and to the school's individual inventory. The following tables reveal the findings from the questionnaire.

Table 5 deals with the response of the heads of industrial-arts departments to question two: Does the standardized test program of your department include the following tests? Does your department supply this information to other school departments? Is the information incorporated in the school's individual inventory.

TABLE 5
REACTION OF 602 INDUSTRIAL-ARTS DEPARTMENT HEADS ON TESTS INCLUDED IN STANDARDIZED TEST PROGRAM

<table>
<thead>
<tr>
<th>Tests in the Industrial-Arts Department's Standardized Test Program</th>
<th>Percentage of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Shop Program</td>
</tr>
<tr>
<td>a. General intelligence test</td>
<td>27</td>
</tr>
<tr>
<td>b. Mechanical aptitudes test</td>
<td>29</td>
</tr>
<tr>
<td>c. Other aptitudes tests</td>
<td>15</td>
</tr>
<tr>
<td>d. Vocational interest inventory</td>
<td>20</td>
</tr>
<tr>
<td>e. General interest inventory</td>
<td>14</td>
</tr>
<tr>
<td>f. Personality rating</td>
<td>15</td>
</tr>
<tr>
<td>g. Achievement tests</td>
<td>29</td>
</tr>
<tr>
<td>h. Other?</td>
<td>2</td>
</tr>
</tbody>
</table>
Table 6 contains the reaction of the leaders in the field of industrial arts, who were asked to indicate which of the listed tests they considered desirable in the industrial-arts department, and which they considered necessary.

**TABLE 6**

REACTION OF TEN LEADERS OF INDUSTRIAL ARTS ON TESTS INCLUDED IN STANDARDIZED TEST PROGRAM

<table>
<thead>
<tr>
<th>Tests Included in the Standardized Test Program</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. General intelligence test</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>b. Mechanical aptitudes test</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>c. Other aptitudes tests</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>d. Vocational interest inventory</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>e. General interest inventory</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>f. Personality rating</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>g. Achievement tests</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>h. Other?</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**TABLE 7**

REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS ON TESTS INCLUDED IN STANDARDIZED TEST PROGRAM

<table>
<thead>
<tr>
<th>Tests Included in the Standardized Test Program</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. General intelligence test</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>b. Mechanical aptitudes test</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>c. Other aptitudes tests</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>d. Vocational interest inventory</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>e. General interest inventory</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>f. Personality rating</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>g. Achievement tests</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>h. Other?</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 7 contains the responses of the state supervisors of industrial arts, who indicated which of the tests were desirable, and which were necessary.

**TABLE 8**

**REACTION OF NINE STATE GUIDANCE SUPERVISORS ON TESTS INCLUDED IN STANDARDIZED TEST PROGRAM**

<table>
<thead>
<tr>
<th>Tests Included in the Standardized Test Program</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. General intelligence test</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>b. Mechanical aptitudes test</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>c. Other aptitudes tests</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>d. Vocational interest inventory</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>e. General interest inventory</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>f. Personality rating</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>g. Achievement tests</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>h. Other?</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 8 contains the reaction of the state supervisors of guidance services, who indicated which of the tests were desirable in the industrial-arts department's standardized test program, and which were necessary.

Each type of test included in the questionnaire will be presented separately. A discussion of its usefulness, as indicated in contemporary literature, will be followed by any interesting or significant findings from the tables.

**The General Intelligence Test**

The test of general intelligence is the most commonly used objective test. It is necessary for pupil adjustment
to the entire curriculum. The exact nature of intelligence, or general mental ability, is not known, but for purposes of this study intelligence will be considered as "the capacity for learning plus the informations, skills, and attitudes which the individual has gained from reacting to his environment". (59:75)

Myers states that it is possible to predict from an individual's intelligence rating about how far he is likely to be able to go with his school and college education. (57:179) He also states that: (57:180)

Not only are certain limitations placed by one's intelligence upon his chances to prepare for, and in some cases to enter, certain occupations. Much more important for one's vocational success is the fact that vocations differ a great deal with respect to the intelligence possessed, as measured by intelligence tests, by the great majority of those who work with efficiency and satisfaction in them.

It is apparent that the analysis and interpretation of a test of intelligence or mental ability is helpful if the pupil is to make the most of his abilities and aptitudes.

Slightly more than one-fourth of the department heads indicated that they included a general intelligence test in their standardized test program, and nearly all of this number incorporated the information gained from the test in the school's individual inventory. Almost none of the leaders considered such a test desirable, but nearly all of the supervisors indicated its desirability.
Mechanical Aptitudes Test

Mechanical aptitude is the capacity of an individual to deal successfully with mechanical devices, and to acquire the knowledge essential to their selection and operation after suitable training has been given.

Newkirk and Greene state that: (59:83)

The importance of identifying mechanical aptitudes is more obvious when it is realized that at least 40 per cent of the gainfully employed population in the United States is dependent in some measure for its economic success on the possession of mechanical ability... The industrial education teacher should keep this clearly in mind and should blend other important guidance information with the evidence of the pupil's mechanical ability.

Dresher states: (23:63)

Mechanical aptitude, as measured by various tests, is an estimate of a pupil's ability to learn manual or mechanical work. The factors involved in most mechanical aptitudes tests are one or more of the following: mechanical comprehension, manual dexterity, eye-hand coordination, visualization of form, spatial relations, and finger dexterity.

Tests of mechanical aptitudes are used by slightly more than one-fourth of the department heads, while nearly all of the leaders and supervisors of industrial arts consider such tests desirable in the industrial-arts standardized test program, and two-thirds of the guidance supervisors also indicate that these tests are desirable.
Other Aptitudes Tests

In addition to mechanical aptitude tests, there are tests of other aptitudes which might be valuable in learning about the individual pupil and counseling him. In the industrial-arts shop there are abilities other than the purely mechanical which contribute to the success of the pupil.

Germane and Germane consider aptitude as an important factor in choosing a vocation. They say: (37:383)

While a student's vocational interests may help him in selecting a vocation, the second and even more significant factor is his special aptitude or ability. Vocational success cannot be built on interest alone. In counseling, teacher and student must not evade the problem of aptitude. The main purpose of the diagnosis of the student's aptitudes, or abilities, is to help him find what types or fields of occupations demand about the same kind and degree of abilities and aptitudes as he seems to possess. The school should prevent a student from spending years in preparation for a group of occupations which demand certain types and degrees of special ability which he does not have.

The Encyclopedia of Vocational Guidance lists several categories of aptitude tests used at present in guidance work. Types of tests which may be of value in the industrial-arts department are the scientific, mechanical, and manual. Aptitude tests falling in some of these categories are used in evaluating vocational possibilities of a specific nature.

Less than one-sixth of the department heads use
any aptitudes test other than the mechanical, but these indicate an awareness of the values in counseling by incorporating the results in the school's individual inventory. Less than one-half of the leaders and supervisors of industrial arts consider these desirable, and approximately one-half of the guidance supervisors indicate their desirability.

Vocational Interest Inventory

Dresher makes the following comments about vocational-interest inventories: (23:59)

Vocational-interest inventories are based on the theory that a given occupational group has a special pattern of interests, and that these differ from the interests of the general population. They are also based on the theory that the interest pattern of one occupational group differs from the interest pattern of another occupational group. . . . The purpose is to find the "likes" and preferred activities of the student. These instruments are used in locating the fields of occupations he is most likely to enjoy.

It is entirely possible, of course, to have an aptitude for an occupation, and no interest in it, or to have an interest in it, but no aptitude. But the problem of the vocational interest inventory is not learning the pupil's expressed interest in a particular occupation, but rather of "discovering the degree to which he possesses the general pattern of interests that characterize successful workers in a specific occupation. (57:206)
The vocational interest inventory is used by about one-fifth of the department heads, but approximately two-thirds of the leaders and supervisors consider this inventory desirable.

**General Interest Inventories**

Interest inventories have proved to be valuable instruments in locating general and special interests of secondary school pupils. They do not, however, have predictive values of determining success in a particular occupation.

Darley makes the following statement: (16:114)

The best measurements of interests are those which attempt to get the student to express choices among a wide range of activities to which he has been exposed, rather than asking him to express preferences for specific occupations about which he can have only limited information.

Jones says: (47:195)

The interests, the likes and dislikes revealed by these blanks are, in most cases, real present interests and as such have a real present value even though they may not be safe guidance tools for the choice of an occupation. These interests should be utilized by teachers and counselors as a means of widening and enriching the knowledge of the pupil and developing an understanding and appreciation of different types of occupational life.

The department heads apparently consider the general interests inventories the least valuable of the standardized tests. However, it may be significant that all who use
the general interest inventories incorporate the results in
the school's individual inventory. Less than one-half of
the leaders, and approximately one-half of the supervisors
consider such inventories desirable.

**Personality Rating**

The pupil who has been shown to have certain aptitudes
and interests which are considered desirable for success
in his chosen occupational or educational field may fail
miserably in pursuing his career because of certain
unrecognized or uncorrected personality defects. Germane
and Germane cite Brewer's study of more than 4000 men who
had lost their positions during a period of one year in a
large city. He discovered that 34.2 of these men were
discharged due to lack of sufficient skill or technical
training, but more than 62 per cent of the men were
discharged because of some defect in character. (37:150)

Darley makes the following statement about personality
indicators: (16:120) "In testing for personality and in
predicting from personality tests, we cannot say definitely
how much of the personality traits and what combination of
personality traits make for successful school achievement
or successful job adjustment." He gives two reasons for
studying personality: (16:121)

(1) To identify the maladjusted student or the
maladjusted worker whose maladjustment has
nothing to do with his ability or aptitude,
but is preventing effective use of his ability.

(2) To determine the appropriateness of the person's personality type for the broad occupational field into which he may go.

The personality rating is also considered of minor importance by the department heads, if we are to judge by the reactions indicated in the tables. Fewer than one-sixth use such ratings, but almost all of these supply the results of these ratings to the individual inventory. Less than one-half of the leaders and supervisors consider personality ratings desirable.

Achievement Tests

Achievement tests attempt to measure scholastic attainment or progress in various subjects. There are also achievement tests that provide for diagnosis of specific learning difficulties for each pupil. They provide a fair, objective and impartial measure of pupil achievement.

Traxler says: (81:68)

... tests of achievement help to provide information concerning the general academic aptitude and the functioning interest of each individual, and probably should form the core of the systematic testing program of every school which hopes to do a thorough and objective job of guidance.

Newkirk and Greene provide the following caution about the use of achievement tests unsupported by performance tests in the industrial-arts department: (59:63)
In order to measure achievement in industrial education, it is necessary to measure information and ability to perform tasks involving the use of tools, machines, and materials. Ability to perform a task does correlate with knowledge, but the relationship does not seem to be sufficiently close to warrant the use of the pencil-and-paper type test to measure all types of achievement in industrial education.

The industrial-arts department heads indicated that they used achievement tests more often than any other type of standardized tests. Almost one-third include these in the shop program, and nearly all of these incorporate the information in the individual inventory. More than one-half of the leaders and supervisors consider achievement tests desirable.

Other Tests

There are many diagnostic and prognostic tests which could be administered to the individual pupil on the basis of need. Diagnostic tests are specially constructed achievement tests designed to discover the exact identity and location of the pupil's strength and weaknesses in subject-matter mastery. Prognostic tests are measures of specialized aspects of intelligence. (59:14) They are designed to measure specific abilities underlying achievement in a subject-matter field rather than the achievement itself.

Among well-known types of diagnostic tests is the
reading test designed to secure objective and detailed analytical information concerning the different aspects of the reading ability of the pupils. This is particularly useful in determining the pupils who are receiving inferior achievement ratings because of reading inability.

The trade test is an example of the prognostic test. Newkirk and Greene say of this: (59:72)

It makes no attempt to measure the native endowment of the subject, with a view to predicting the degree of success to be expected as a result of training in a specific trade; the trade test furnishes a rating, in objective qualitative terms, of the degree of trade ability already possessed as a result of practice in the trade.

A small number of department heads and one leader of industrial arts suggested that the mechanical comprehension test was a desirable addition to the standardized test program.

Summary of the Standardized Test Program in the Industrial Arts Department

Contemporary literature reflects a complete acceptance of certain values of standardized tests. All leaders and writers in the fields of industrial arts and guidance, however, state emphatically that persons administering and interpreting such tests must be specially trained for the task.

Standardized tests most often used by industrial-arts department heads are of general intelligence, mechanical
aptitudes, and achievement. Slightly more than one-fourth of the department heads use these three tests, and nearly all of this number incorporate the results in the school's individual inventory.

Approximately two-thirds of the leaders of industrial arts consider mechanical aptitudes tests, vocational interest inventories and achievement tests desirable, but only one-third consider them necessary. This group appears to attach greater emphasis on the necessity for such tests than do the other groups.

Nearly all of the supervisors of industrial arts consider four tests desirable. These are tests of general intelligence, mechanical aptitudes, achievement, and the vocational interest inventory. Only one considers these tests necessary, however.

The guidance supervisors agree with the supervisors of industrial arts in considering tests of general intelligence, mechanical aptitudes and the vocational interest inventory desirable in the industrial arts standardized test program. Two-thirds consider these tests desirable, but most of the guidance supervisors do not consider them necessary.

Problems of Pupil Assistance in the Industrial-Arts Department

The responsibility for pupil assistance belongs to
all departments of the school, and ultimate success in pupil adjustment is impossible without the full cooperation of each department. The alert teacher will take full advantage of the services offered by other agencies of pupil adjustment. The industrial-arts department can cooperate fully in such services.

Traxler discusses the teacher's role in the adjustment of the pupil to his in-school environment in the following terms: (81:314)

The contributions that a teacher can make to adjustment are innumerable. When it is discovered that a pupil is poorly adjusted, the general role is to assemble the facts, analyze them, form a tentative hypothesis about the nature of the difficulty, plan treatment, apply it, observe the effect, and revise treatment as needed until the difficulty appears to have been removed. The teacher's most obvious relation to adjustment of pupils is in learning situations... Teachers have long cooperated in adjustment matters of this sort.

Erickson lists many of the possible causes of school difficulty which may indicate a need for assistance. A partial list follows: (27:72)

**Personality difficulties:**
- a. Emotional instability
- b. Failure to make social adjustments
- c. Inability to take criticism
- d. Personal dissatisfaction
- e. Problems of poor judgment

**Lack of preparation for his work:**
- a. Is his reading rate or comprehension insufficient?
- b. Is his skill in English usage insufficient?
- c. Does his previous education fail to correlate with his present needs?
d. Has he failed to gain sufficient skill in fundamental mathematics?

Is he physically incapable?
   a. Is his general health poor?
   b. Is his general physique weak?
   c. Does he possess a special physical handicap?
   d. Has illness or accident caused lapses in his school attendance?
   e. Does he fail to store and conserve energy?

Is his mental capacity unequal to the requirements?
   a. Is he below the required degree of mental maturity?
   b. Does he exhibit general mental disability?
   c. Does he possess a special mental disability?

Is he handicapped by psycho-physical defects?
   a. Is his sight defective?
   b. Is his hearing defective?
   c. Does he have speech defect? (what is cause?)
   d. Does he exhibit muscular incoordination?
   e. Does he imagine he has a defect?

Nearly all of the maladjustments or disabilities listed above require that assistance be given by specialists. The industrial-arts teacher will perform a real service to the individual possessing such difficulties if he will locate the difficulty and refer the pupil to school or community agencies for assistance.

The industrial-arts teacher can render a further service to pupil adjustment if he will make a special effort to supply certain services, information and facilities of his department to pupils referred to him from other parts of the school. The most obvious of these services is the try-out opportunity for pupils who have become interested in some aspects of an occupation, but need an opportunity to experience the mechanical or manipulative aspect. The second is supplying occupational information
about the experience areas included in the shop program. In many schools, the occupational information is divided among the departments which have the closest association with the occupation: the commercial department handles information about office and business practices, the industrial-arts department handles information about the skilled and unskilled mechanical and manipulative trades, etc. In schools where this is the practice, it is essential that the information be available to all interested pupils inside and outside the department.

A third service which the industrial-arts department can render to pupils referred to the shop is the teaching of certain required mechanical or manipulative skills to pupils who plan to go to advanced technical or scientific schools where a degree of manual dexterity will be necessary. This service can be rendered more readily by the industrial-arts department than by any other department in the school.

The following tables deal with the reaction of the department heads, leaders, industrial-arts supervisors and guidance supervisors to question three in the questionnaire: the role of the industrial-arts department in pupil assistance by means of referrals.

Table 9 contains the responses of 602 heads of industrial-arts departments to the question: Does your
shop assist in pupil adjustment by means of the following?

Does your industrial-arts department supply this information to other school departments? Is the information incorporated in the school's individual inventory?

TABLE 9

REACTION OF 602 INDUSTRIAL-ARTS DEPARTMENT HEADS ON USE OF REFERRALS FOR PUPIL ASSISTANCE

<table>
<thead>
<tr>
<th>Role of Industrial-Arts Department in Referrals For Pupil Assistance</th>
<th>Percentage of participation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By</td>
</tr>
<tr>
<td>A. Referral to medical service</td>
<td>45</td>
</tr>
<tr>
<td>b. Referral to psycho-educational clinics</td>
<td>16</td>
</tr>
<tr>
<td>c. Referral social agencies</td>
<td>19</td>
</tr>
<tr>
<td>d. Referral to local agencies for information</td>
<td>32</td>
</tr>
<tr>
<td>e. Referral to other school agencies</td>
<td>49</td>
</tr>
<tr>
<td>f. Referral to other teachers</td>
<td>72</td>
</tr>
<tr>
<td>g. Provision of service and information for pupils referred to your shop</td>
<td>53</td>
</tr>
</tbody>
</table>

Table 10 contains the responses of the leaders in industrial arts, who indicated which of the functions they considered desirable in the industrial-arts department, and which of these items were necessary.

Table 11 reveals the reaction of the state supervisors of industrial arts, who indicated which of the functions they regard as desirable, and which they consider necessary.
TABLE 10

REACTION OF TEN LEADERS OF INDUSTRIAL ARTS ON
USE OF REFERRALS FOR PUPIL ASSISTANCE

<table>
<thead>
<tr>
<th>Items Included in Referral for Pupil Assistance</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Referral to medical service</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>b. Referral to psycho-educational clinics</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>c. Referral to social agencies</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>d. Referral to local agencies for information</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>e. Referral to other school agencies</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>f. Referral to other teachers</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>g. Provision of service and information for pupils referred to your shop</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

TABLE 11

REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS
ON USE OF REFERRALS FOR PUPIL ASSISTANCE

<table>
<thead>
<tr>
<th>Items Included in Referral for Pupil Assistance</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Referral to medical service</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>b. Referral to psycho-educational clinics</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>c. Referral to social agencies</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>d. Referral to local agencies for information</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>e. Referral to other school agencies</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>f. Referral to other teachers</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>g. Provision of service and information for pupils referred to shop</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 12 contains the reaction of the state supervisors of guidance services. These men were also asked to indicate which of the listed items were desirable in the industrial-arts department, and which were necessary.
TABLE 12

REACTION OF NINE STATE GUIDANCE SUPERVISORS ON USE OF REFERRALS FOR PUPIL ASSISTANCE

<table>
<thead>
<tr>
<th>Items Included in Referral for Pupil Assistance</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Referral to medical service</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>b. Referral to psycho-educational clinics</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>c. Referral to social agencies</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>d. Referral to local agencies for information</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>e. Referral to other school agencies</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>f. Referral to other teachers</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>g. Provision of service and information for pupils referred to shop</td>
<td>9</td>
<td>1</td>
</tr>
</tbody>
</table>

Interesting or significant findings from the tables will be presented after a discussion of the usefulness of each of the listed referral services, as supported by contemporary literature.

Referral to Medical Service

In certain instances, the duty of the industrial-arts department in referral to medical service is obvious: the use of sharp tools by unskilled hands often results in cuts or abrasions which require the services of the first-aid station, usually under the supervision of a nurse or doctor. The increased use of mechanical safeguards on machinery has, fortunately, lessened the need for such services.

A second such duty is the referral to medical service
of the child who appears ill in class. This is also usually handled by the school nurse or doctor.

The early detection and referral to the proper agency of the pupil having sight or hearing deficiencies requires the attention of all teachers. Likewise, the referral of the child having correctible physical defects, while usually the duty of the administration or guidance authorities, may be a duty assumed by the teacher in cases of necessity. Germane and Germane confirm this view: (37:434)

If the student's physical impairment is beyond the understanding of the teacher, the school physician or nurse may be consulted or the matter may be referred to the family to take up with the family physician. Often organic disfunctioning or glandular trouble can be cured entirely, or at least their disintegrating influence can be arrested.

Nearly one-half of the department heads indicate that they realize the necessity for assisting the pupil by means of referral to medical service. Also, one-fifth incorporate such information in the school's individual inventory. Nearly all of the leaders and supervisors consider such referrals desirable.

Referral to Psycho-Educational clinics

The use of psychological diagnosis or testing has been differentiated in this study from tests of mental or scholastic ability and scholastic achievement. A
psychological test is used for the purpose of diagnosing and recommending remedial treatment for personality difficulties, emotional instability, social maladjustment, and psycho-physical defects such as speech defects caused by nervous instability.

Myers (57:50) lists certain areas where such services are necessary for pupil adjustment. He includes:

(1) The provision for obtaining information concerning influences that are responsible for individual emotional disturbances.
(2) Treatment intended to eliminate or reduce the effects of these influences and bring about a wholesome emotional state.
(3) Seeing that the personality assets and liabilities of pupils are discovered, recorded and used as aids in guidance.
(4) Seeing that special aptitudes, interests, and limitations of pupils are discovered and recorded for use in helping them to plan their educational, vocational, and recreational program.

A highly specialized clinic of this type is, of course, not found in many schools. Such a clinic must be in the hands of highly-trained personnel who understand the psychological implications of maladjustment and the accepted methods of diagnosis and treatment.

The referral to psycho-educational clinics was apparently considered of least value by the department heads, only one-sixth using such referral for pupil assistance. More than two-thirds of the leaders of industrial arts and guidance supervisors considered this referral desirable, but only one of the supervisors
of industrial arts indicated that it was useful.

Referral to Social Agencies

There are many pupils in the school who would be benefitted by the assistance of specific social and welfare agencies. Pupil maladjustment may often be traced to an unsatisfactory home and social relationship. Many communities have special agencies capable of dealing with such cases. Reed lists some community resources which can assist the pupil: (64:130)

Welfare agencies, public and private, are numerous and the public ones are multiplying... Public agencies usually assume responsibility for delinquent, dependent, and defective children, for indigent and defective adults, and for those on probation or parole through court action or release from institutions. Legal aid in the solution of a variety of problems is provided through the same avenues. School welfare services usually receive a large part of their financial support directly from the corps of the school which they serve. Their main function is to supply clothing, glasses, braces, or other articles without which the attendance and education of the pupil would be blocked.

Referral to social agencies was also not highly considered by the department heads, less than one-fifth of whom used this method of pupil assistance. The leaders and supervisors were divided in their opinions as to its values. One-half of the leaders, one-third of the industrial-arts supervisors, and more than two-thirds of the guidance supervisors considered such referrals desirable.
Referral to Local Agencies for Information

Local agencies are often helpful in problems of a vocational nature by serving as sources of occupational and educational information. Often the school library, though adequate in most respects, contains occupational materials which are several years old. These may provide some information for the pupil who is trying to learn about his chosen vocation, but his need is for up-to-date material. Business service organizations such as the Chamber of Commerce, Kiwanis, Rotary, Lions, and other groups are able to supply assistance to the pupil and to the school. Often these groups sponsor active vocational informational programs for young people, or cooperate with the school in organizing them.

Modern industry has also realized the need for cooperating with schools, and may supply valuable occupational literature. Business men cooperate by sponsoring inspection trips to local industries for pupils who are interested, and by supplying part-time work opportunities for pupils needing employment or try-out experiences.

The leaders and supervisors of industrial arts and guidance indicate a greater awareness of the value of referrals to local informational agencies than do the department heads. Two-thirds of the leaders and supervisors...
consider this referral desirable, but less than one-third of the department heads refer pupils to local agencies for information.

Referral to Other School Agencies

Many industrial-arts departments depend upon the school testing department for all mental ability tests and subject-matter achievement tests, in addition to the psychological ratings. In such cases, the industrial-arts teacher may wish to refer individuals to this department for special diagnostic tests. Results of such tests indicating that the pupil is deficient in certain fields of learning may lead to other referrals. Pupils deficient in the reading or mathematical skills required for understanding and using materials in the industrial-arts shop may be referred to other agencies for remedial instruction.

Occupational information is sometimes given in a separate department in the school. Many leaders in industrial arts prefer to provide the occupational information related to the experience areas in the shop. In schools where this is not practical, the teacher should be able to refer the pupil to the proper source of the desired material.

About one-half of the department heads refer pupils
to other school agencies, and nearly all of the leaders and supervisors consider this type of referral desirable.

Referral to Other Teachers

The industrial-arts department sometimes refers pupils to other teachers when testing has diagnosed a weakness in reading or mathematical skill, or when the pupils need information from another source.

When the teacher is acting as counselor, and is unable to gain the confidence of the pupil, effective counseling is impossible. The pupil will make no attempt at self-analysis and self-adjustment unless he is certain of the complete understanding of the teacher or counselor. In such cases, the wise teacher will refer the pupil to another teacher, preferably one chosen by the pupil.

Germaine and Germaine recognize the problem of conflicting personalities: (37:413)

In some instances, it may be wise to have some other teacher counsel the student. One must not feel hurt because a particular student prefers another adviser. Some personalities "click", others clash. The primary objective of the interview is to discover the cause of the symptoms of maladjustment.

Referral to other teachers is a means of assisting the pupil quite often used by the department heads. Almost three-fourths of the departments refer pupils to other teachers, and about three-fourths of the leaders and supervisors consider such referrals desirable.
Provision of Service and Information for Pupils Referred to Your Shop

The discussion of "Problems of Pupil Assistance", dealt briefly with the responsibility of the industrial-arts department in rendering certain services, information and facilities of his department to pupils referred to him from other parts of the school.

The first of these services is the try-out opportunity for pupils who have become interested in some aspect of an occupation, but need an opportunity to experience the mechanical or manipulative aspect. The second is supplying occupational information about the experience areas included in the shop program, in schools where this is considered a function of the department. The third service is the teaching of certain required mechanical or manipulative skills to pupils who plan to go to advanced technical or scientific schools. The often-quoted Report of the Harvard Committee, "General Education in a Free Society", makes the following statement: (65:160)

"... we shall say something about the importance of shop training in general education. For those who intend to go into scientific or technological work, it has special relevance. The manipulation of objects, the use of tools, and the construction of simple apparatus all are required for entry into the world of experimentation. Even the pure mathematician is greatly aided by shop experience; the forms, contours, and inter-relations of three-dimensional objects provide
a stimulus and satisfaction not to be achieved altogether within the limits of plane diagrams. The lack of shop training is at present a most serious deterrent to entry into all types of technological work and to college and post-graduate training in science, medicine and engineering. What students should learn in secondary school specifically is the use of simple hand tools and the execution of simple basic operations such as soldering and elementary glass blowing and joining. If the student can be taught to operate a drill press, a wood lathe, and a machine lathe, so much the better.

The department heads are apparently very much aware of the value of the service and information which they can provide for the pupils referred to them. This was considered the most important aid next to referral to other teachers by the department heads, leaders and supervisors of industrial arts, and most important of all by the guidance supervisors.

Summary of Problems of Pupil Assistance in the Industrial-Arts Department

A study of contemporary literature dealing with the teacher's use of referrals in assisting the pupil indicates that the wise teacher is alert to detect symptoms of need or maladjustment in the pupil, and quick to refer him to the agency which is equipped and trained to handle referrals and problems of pupil adjustment.

The department heads and leaders, and the supervisors of both industrial arts and guidance agree that referral to other teachers is a desirable aid to the pupil.
Referral to medical service and to other school agencies is also highly desirable, they say.

The provision of service and information for pupils referred to the shop was considered the second most desirable aid by the department heads and leaders and supervisors of industrial arts, while the guidance supervisors considered it the most desirable of the industrial-arts department's methods of assisting the pupil.

The Use of Pupil Interviews in the Industrial-Arts Department

The personal interview is one of the most effective techniques for gaining an understanding of a pupil. Every teacher carries on interviews, whether planned or unplanned, formal or informal. The value of pupil interviews, and the extent and desirability of the industrial-arts department's use of this counseling tool will be presented in this section.

The interview is a basic teaching tool as well as a basic counseling tool. In the industrial-arts shop, the opportunities for informal interviews are frequent. Each pupil needs a great deal of personal attention from the teacher during the course of his work. It is possible to use these moments of personal instruction for purposes of fact-collecting and counseling. The formal interview
is also used at times in all departments. The type of pupil interview will depend upon many factors: time available, type of school organization, teacher-training in guidance, and school policy toward teacher interviews.

Erickson discusses the role of the teacher in pupil-interviews as follows: (29:237)

A teacher may benefit from every opportunity for informal conversation with a student, such as incidental chats before and after classes, and chance meetings about the school or at social gatherings. However, the teacher will find the planned interview most helpful.

Darley emphasizes the importance of the pupil interview as follows: (16:164)

No matter how much material we collect about students, the sheer collection of it will be of little value unless the material is discussed in a series of interviews with the student and other interested individuals. No matter how good the material is, this goodness will be relatively unimportant unless the material is wisely handled in the interview.

Before going further with the discussion of the role of the industrial-arts teacher in conducting pupil interviews, it may be useful to give Germane and Germane's definition: (37:132)

The interview, as used in the majority of schools, may be defined as a face-to-face conference between teacher and student for several purposes, chief of which is the sharing of mutual interests and understandings so that a situation or a problem may be met more effectively.

There are differences in the type of interviews
each teacher will be qualified to conduct. Darley discusses three ways in which the talents of the different teachers may be utilized: (16:167) (1) Interviews regarding their own subject matter; (2) Interviews giving out vocational information; (3) Interviews regarding social adjustment problems of students.

The interview is thus seen as one of the primary processes of analyzing and adjusting the problems of the pupil. To the extent that the industrial-arts department recognizes this fact, and renders services in accord with such recognition, it is assisting the pupil.

The following tables display the reaction of department heads, leaders in industrial arts, and state supervisors of industrial arts and guidance to question four in the questionnaire: Do your pupil interviews include the following points? Does your industrial-arts department supply this information to other school departments; and is the information incorporated in the school's individual inventory?

Table 13 deals with the response of the heads of industrial-arts departments to the question of interviews.

Table 14 contains the reaction of the leaders in the field of industrial arts, who were asked to indicate which of the items they considered desirable in the interviews of the industrial-arts department, and which of these items were necessary.
Table 13 reveals the response of the state supervisors of industrial arts, who indicated which of the items were desirable, and which of these items were necessary.

Table 16 indicates the reaction of the state supervisors of guidance services, who were also asked which of the items they considered desirable, and which of these items were necessary.
### TABLE 14
REACTION OF TEN LEADERS IN INDUSTRIAL ARTS ON ITEMS CONSIDERED IN PUPIL INTERVIEWS

<table>
<thead>
<tr>
<th>Items Considered in Pupil Interview</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Current shop work</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>b. Future educational and vocational plans</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>c. Social adjustment</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>d. Home life</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>e. Emotional adjustment</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>f. Understanding individual ratings</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>g. Recognition of abilities</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>h. Recognition of limitations</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>i. Is interview required of each pupil?</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>j. Is interview by appointment</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>k. Is special time provided?</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>l. Do you have private place for interview?</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

### TABLE 15
REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS ON ITEMS CONSIDERED IN PUPIL INTERVIEWS

<table>
<thead>
<tr>
<th>Items Considered in Pupil Interview</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Current shop work</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>b. Future educational and vocational plans</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>c. Social adjustment</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>d. Home life</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>e. Emotional adjustment</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>f. Understanding individual ratings</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>g. Recognition of abilities</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>h. Recognition of limitations</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>i. Is an interview required of each pupil?</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>j. Is the interview by appointment?</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>k. Is special time provided for interview</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>l. Do you have private place for interview?</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>
### TABLE 16

**REACTION OF NINE STATE SUPERVISORS OF GUIDANCE ON ITEMS CONSIDERED IN PUPIL INTERVIEWS**

<table>
<thead>
<tr>
<th>Items Considered in Pupil Interviews</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Current shop work</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>b. Future educational and vocational plans</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>c. Social adjustment</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>d. Home life</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>e. Emotional adjustment</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>f. Understanding of individual ratings</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>g. Recognition of abilities</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>h. Recognition of limitations</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>i. Is an interview required of each pupil?</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>j. Is the interview by appointment?</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>k. Is special time provided in schedule for interviewing?</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>l. Do you have a private place to carry on the interview?</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

Each item considered in the pupil interviews will be discussed separately, first from the viewpoint of contemporary writers of industrial arts and guidance literature, followed by a brief statement of interesting results from the tables.

**Current Shop Work**

The industrial-arts teacher may wish to include a discussion of the pupil’s current shop work in the general interview, or he may prefer to schedule special interviews for discussion and evaluation of shop work.
The teacher may give assistance to the pupil on his current project every day, but a discussion of his over-all progress may prove helpful, particularly in regard to grades or records. The pupil must be informed as to the basis for his grade or mark, and must be made to feel that his efforts have been correctly evaluated.

Ericson constantly emphasizes the necessity for pupil understanding of shop-work grades. He warns:

(30:190)

Lack of an established system of grading causes unpleasant after-effects. A good way to avoid later misunderstandings is to visualize, in advance, a possible interview with the inquiring student after the final grade has been given... In non-vocational shopwork, particularly, there is need for recognizing other results of effort than what might show on the finished article which has been produced.

Ericson lists the following qualities and characteristics for discussion with the pupil: (30:191)

1. Quantity of work accomplished.
2. Quality of work (accuracy and workmanship)
3. Effort put forth.
4. Knowledge acquired and applied.
5. Proper attitude.

Nearly all of the department heads include a discussion of the current shop work in their pupil interviews, and nearly all of the leaders and supervisors consider such a discussion desirable in the industrial-arts department interviews.
Future Educational and Vocational Plans

A discussion of the educational and vocational plans of the pupil is one of the more important purposes of the pupil interview. All record-gathering, testing, and adjustment counseling has as its most important outcome the future welfare of the pupil, which is ultimately determined by his adjustment to his educational and vocational program. Erickson (29:126) suggests a program-planning interview in the eighth grade, to help the pupil plan his program in accordance with his interests and abilities. He suggests a vocational interview in the eleventh grade to discuss the pupil's more mature judgment regarding his vocational interests and capacities, and an interview regarding future plans in the twelfth grade to assist the pupil to decide on further training or immediate entrance into the occupational world.

Four-fifths of the industrial-arts department heads include a discussion of the pupil's future educational and vocational plans in their pupil interviews, and nearly all of the leaders and supervisors indicate that this is desirable.

Social Adjustment

The secondary school pupil is passing through a period in which he often needs assistance in making
adjustments to his social environment. The interview is a useful means of determining his degree of social adjustment and of giving assistance where he is maladjusted. Erickson suggests an adjustment interview as a valuable step in pupil adjustment at the seventh-grade level, to determine whether the pupil is well adjusted to his subjects, teachers, classmates, and general environment. He suggests another such interview in the tenth grade, and a "progress and adjustment interview" in the eleventh grade, to attempt to learn whether the pupil is getting from his social and classroom experience all that he should, and making progress in the business of developing into a wholesome and well-balanced individual. (29:127)

Germane and Germane (37:414) suggest a study of the pupil's social adjustment, specifically his aggressive or retiring qualities, and reasons for his non-participation in social affairs. This is desirable before the interview.

Consideration of the pupil's social adjustment is apparently considered less valuable in the industrial-arts department interview than subjects concerning his shop work or future plans. Almost one half of the department heads and leaders of industrial arts consider a discussion of social adjustment desirable, and two-thirds of the supervisors indicate its desirability.
An understanding of the pupil's home and family background is necessary to the interviewer who hopes to assist the pupil. Many of the maladjustments may be rooted in his home life. A discussion of these in the interview may help the pupil to understand the forces operating in the home and to compensate for undesirable influences.

Germaine and Germaine make some suggestions for assisting the student whose home life is badly adjusted:

(37:429)

Not infrequently the student's unsocial or anti-social attitude toward others and toward life in general has its origin in the distorted social outlook of his parents. Many students live in homes where illness or economic worries are ever present. The personalities of parents and children alike may be warped by such uncontrollable factors. One or both parents may be neurotic. Parents may be incompatible. The atmosphere of the home may be surcharged with defeatism. Racial diets or customs, or religious doctrines may make the home "different". Low standards of morals may dominate it...

One constructive measure is to help the student to understand and appreciate the possible undesirable effects of his frustration of certain powerful motives which cause tensions or abnormal emotional outbursts. His knowledge of what frustrated motives have meant in his own life will help him to understand your explanations. It may help him also to appreciate the effect of economic, social and emotional strains on the lives of his parents.

Almost exactly the same value is attached to the discussion of home life in the interview as was
apparently given to the discussion of social adjustment. Less than one-half of the department heads included this item in the interview. One-half of the leaders and two-thirds of the supervisors consider the discussion of home life desirable.

**Emotional Adjustment**

The emotional adjustment of the pupil refers to his degree of self-confidence, integration, and freedom from conflicts, on the one hand, and his fears, inferiorities and self-pitying status on the other.

Germane and Germane make the following suggestions for the prevention, alleviation and elimination of pupil maladjustment. (37:424)

1. Try to recognize early all symptoms of maldevelopment.
2. Try to learn the cause of the pupil's maldevelopment.
3. Help the student to understand why he has been using defense mechanisms instead of facing reality.
4. Help the student to realize the necessity for making an analysis of his abilities, interests, and needs and for choosing tasks and setting up goals which he can reasonably attain.

The emotional adjustment of the pupil is apparently considered the least important item for discussion in the
pupil interview. Slightly more than one-third of the
department heads include the pupil's emotional adjustment
in their discussions with the pupil. About one-half
of the leaders and supervisors of industrial arts consider
this subject desirable, and two-thirds of the guidance
supervisors indicate that it is desirable.

Understanding of Individual Ratings

The pupil's ratings on his work in the shop and on
the informational content of the industrial arts course
should, of course, be fully explained to him. Various
methods have been devised for keeping daily, weekly and
monthly charts of the progress of each individual pupil,
and these serve to keep the pupil aware of his progress,
but they fail to tell him why he is rated above or below
other pupils in the class. This is one of the necessary
functions of the interview, and also serves as a means
of motivating learning.

The pupil who has taken any of the standardized tests
will often be anxious to learn the results of these.
Here the teacher encounters a difficulty, for the pupil
is generally unable to understand the full implications
of the tests. There is no hard and fast rule to follow
in such a case, though the pupil should be informed of
significant findings which may influence his choice of
a vocation or career.
The department heads and leaders of industrial arts are in close agreement on the value of including a discussion of individual ratings in the pupil interview. Slightly more than one-half favored this item, but nearly all of the supervisors considered understanding of individual ratings desirable.

Recognition of Abilities

Some industrial-arts teachers make the discussion of abilities one of the most important parts of the interview, stressing the vocational implications of the possession of specific abilities. The presence or absence of mechanical abilities will probably have become evident in shop performance. Aptitude and ability tests, when included in the school testing program, have also indicated future success or failure in occupations depending on such abilities.

The interview may bring the pupil to a recognition of his own abilities in an effort to help him to measure his achievement against his ability. If there are obvious differences, he may be assisted to determine the reasons for the difference.

The subject of recognition of abilities is considered an extremely important feature of the pupil interview. Nearly three-fourths of the department heads include this subject, and almost all of the leaders and
supervisors consider it desirable in the pupil interview conducted by the industrial-arts department.

**Recognition of Limitations**

One of the less-pleasant, but inescapable, duties of the teacher and counselor is to bring the pupil to a recognition of his own limitations. In many cases, the pupil's ambitions or the parent's ambitions for the pupil have forced him into an unwise or impossible vocational and educational choice. In such cases, the teacher is failing in his responsibility if he fails to make the pupil aware of the fact that his abilities are probably insufficient to carry out his ambitious plans.

Darley is very emphatic about the pupil's recognition of his limitations. He says: (16:177)

Don't avoid giving "bad news" to the student if the bad news is really accurate. For example, it is a mistaken kindness to let a student believe he can reach a certain goal when the weight of the evidence is all against him... an interviewer is entitled to discuss—in fact, he should feel obligated to discuss—the student's limitations with him or with his parents, so he will not make plans that will lead to almost inevitable failure. The interview has many of the characteristics of polite conversation, but it departs from the ground rules of polite conversation in that the counselor is duty bound to discuss controversial subjects and limitations where the student's adjustment is at stake.

The recognition of the pupil's limitations is considered a necessary part of the interview by two-thirds of the department heads. In their opinion, as reflected
in the tables, it is apparently slightly less important than the recognition of abilities. Nearly all of the leaders and supervisors, however, consider it desirable.

Is an Interview Required of Each Pupil?

The authorities disagree on the necessity for an interview with each pupil. Some insist that pupils should be interviewed only on the basis of indicated need of adjustment, while others insist that every pupil in the school needs assistance in formulating his educational and vocational plans in conformity with his abilities and limitations.

Erickson says of the required interview: (27:125)

A school system with a well-organized program of guidance services for its pupils might conceivably issue the following instructions to its teacher-counselors relative to the order in which students should be interviewed:
1. Interview all pupils who are known or suspected to be suffering from physical handicaps.
2. Interview those whose previous record shows that they have been tardy or absent far more than average.
3. Interview all those who have failed or are failing in one or more subjects.
4. Interview all those who appear to be maladjusted socially.
5. Interview all those of high ability who have achieved or are achieving at a level below their abilities.
6. Interview all students who wish to drop out of school for any reason whatsoever.

... All students should have the undivided time of the counselor at least once a semester.

Only twenty per cent of the department heads require
an interview of each pupil, and only one leader in the field of industrial arts consider a required interview desirable. However, three-fifths of the supervisors of industrial arts, and nearly all of the supervisors of guidance services consider the required interview desirable.

Is the Interview by Appointment?

The informal interview is usually unplanned, but the purposive interview should be prepared for in advance. The teacher should familiarize himself with the information on the pupil's record, and should have all important facts about the pupil's ability, personality, problems and achievements clearly in mind. For this reason, it has been found useful to schedule pupil interviews. The industrial-arts teacher has so many responsibilities that he must utilize very carefully the time devoted to interviewing. He may prefer to conduct all interviews by appointment except cases of emergency. Much will depend on the school organization and the time which he has available for interviewing.

Myers comments about scheduling individual interviews as follows: (57:251)

It is apparent that a counselor who is to do much interviewing of individual pupils will find it necessary to make out a schedule of appointments in advance, with a maximum time for each interview, and arrange for pupils to see him according to this schedule.
There is a difference of opinion among the four groups on the desirability of scheduling pupil interviews by appointment. One-fourth of the department heads schedule their interviews, but only one-fifth of the leaders indicate that they consider the interview by appointment desirable. More than one-half of the supervisors of industrial arts, and less than one-half of the supervisors of guidance consider this desirable.

Is Special Time Provided in Your Schedule for Interviews?

One of the most difficult problems of counseling handled by teachers is the problem of finding time for it. This is sometimes difficult to arrange, even when the teacher has the best of intentions and the principal of the school cooperates in making teacher interviews a part of the problem.

Dunsmoor and Miller list several ways in which the teacher can find time for counseling: (25:145)

1. Use the study portion of class periods, providing whatever privacy may be possible.
2. Use certain homeroom or section periods which have been set aside, in whole or in part, for individual work with pupils.
3. Use some of the "free periods" which he has. The schedules of most teachers should include one good period daily.
4. Use the time scheduled for assembly or activity periods.

Only about one-eighth of the department heads have special time provided for pupil interviews. Few of the
leaders and supervisors of industrial arts, as contrasted with two-thirds of the supervisors of guidance, consider this provision of special time for interviews desirable.

**Do You Have a Private Place to Carry On the Interview?**

Most educators recognize the desirability of having a private room for conducting interviews. They emphasize the necessity of a relaxing atmosphere where absolute privacy is assured. Desirable as such a room may be, it is not always available in older schools, or in many modern, over-crowded schools. Dunsmoor and Miller, realizing that conditions and setting are not always ideal for pupil interviews, discuss the problem as follows: (25:144)

In any discussion of this type, we should keep in mind that, despite its desirability, the classrooms in most schools are not so arranged as to make it possible to carry on such counseling in privacy when a class or home-room group is present. This means, then, that a considerable part of the teacher's counseling will have to be done under conditions of only semi-privacy at best, since it will quite inevitably come during the study portion of the class periods or during home-room periods that are devoted to this purpose. Much of the casual counseling and a nominal amount of the planned counseling—at least that portion which is of such a nature that complete privacy may be relatively less important—can be handled satisfactorily, even if not ideally, in this manner.

The tables indicate that almost one-half on the department heads are so fortunate as to have a private
place to carry on pupil interviews. The leaders apparently consider this condition not too important, since only one-third consider it desirable. Two-thirds of the supervisors indicate that the private place for interviewing is desirable.

Summary of the Use of Pupil Interviews in the Industrial-Arts Department

Every teacher carries on interviews, whether planned or unplanned. Writers agree that the type of interview used will depend on the time available for such purposes, type of school organization, teacher-training in guidance, and the school policy toward teacher interviews. The writers also agree that the pupil interview must not be accidental, but planned and conducted for purposes of teaching and counseling.

The industrial-arts department heads are, apparently, conscious of the value of pupil interviews. This is indicated by the fact that, although only one-eighth have a special time provided in their schedules for interviewing, four-fifths find time for discussions of shop work and future educational and vocational plans. A majority of the department heads discuss problems dealing with the pupil's shopwork and its vocational and educational implications, but less than one-half include problems of emotional, social and family adjustment in their
interviews. Fewer than one-tenth supply information from or about the interviews to other departments, and fewer than one-eighth incorporate the information in the school's individual inventory. Almost one-half of the department heads have a private place to carry on the interview.

The leaders and supervisors of industrial arts and the guidance supervisors are in close agreement as to the desirability of interviews about shop work and its vocational and educational implications. Despite their agreement that consideration of educational, vocational, social, emotional, and personal problems is desirable in the industrial-arts department's interviews, they differ markedly on the points of time, place, and requirement of such interviews.

Development of the Home-School Relationship by the Industrial-Arts Department

Many teachers fail to make their teaching effective because they do not enlist the active support of the parents, who constitute the third angle of a successful pupil-school-home triangle. The home has surrendered many of its traditional functions and services, but its importance in influencing the child is often shown in his vocational choice. Miller (55:247) states that the choice of an occupation is often haphazard. It is
frequently determined by the ambitions and standards of the young person's family, the pressure of the social group of which he is a member, financial considerations, and trivial and secondary elements.

Parker makes the following statement: (61:280)

The problem of youth concerns us at one chief point—the influence of parents in making the choice of a career. This persuasion may be exerted in several degrees of definiteness. The most general influence would ably be illustrated in the case of the person who almost automatically follows in his father's occupational footsteps, not because of direct parental pressure but because of life-long conditioning in that "occupational complex," because of the lack of other career interests, or because of financial or educational inability to prepare for alternative vocations. These several factors are probably among those responsible for the fact that many young people remain in the same occupations or on the same occupational level as their parents. The second type of influence is illustrated in the case of the parent who discourages his son's natural vocational inclinations and tries to inculcate his own values in their place.

Germane and Germane say that many home problems could be minimized if the spirit of cooperation between school and home were stronger. (37:430)

Dunsmoor and Miller contribute the following statement of the necessity for the establishment of sympathetic relationships with the home. They say: (25:309)

Parents and teachers working together can accomplish a great deal in making the home life of the child and his school life supplementary parts of a harmonious, stimulating experience.

Methods of establishing a desirable home-school
relationship most often used are teacher visits to the home and parent visits to the school. Many variations of the foregoing are now in common use.

The following tables indicate the reaction of those answering the question: Are home-school relationships developed by the following means? Does your industrial-arts department supply this information to other school departments? Is the information incorporated in the school's individual inventory.

Table 17 deals with the response of the heads of industrial-arts departments to the question.

**TABLE 17**

**REACTION OF 602 INDUSTRIAL-ARTS DEPARTMENT HEADS ON DEVELOPMENT OF HOME-SCHOOL RELATIONSHIP**

| Methods used by Industrial-Arts Departments to Develop Home-School Relationship | Percentage of Occurrence |
|---|---|---|---|
| | By | To Industrial Arts Dept. | To School's Other Individual Depts. | To School's Individual Inventory |
| a. Parent interviews | 50 | 6 | 12 |
| b. Home visits | 25 | 4 | 9 |
| c. Parent visits to school shop | 64 | 5 | 6 |
| d. Other | 15 | 1 | 1 |

Tables 18, 19 and 20 indicate the reaction of the leaders of industrial arts, supervisors of industrial arts, and supervisors of guidance services respectively. They were asked to indicate which of the items they considered desirable in the industrial-arts department, and which
TABLE 18

REACTION OF TEN LEADERS OF INDUSTRIAL ARTS ON DEVELOPMENT OF HOME-SCHOOL RELATIONSHIP

<table>
<thead>
<tr>
<th>Methods Used by Industrial-Arts Department to Develop Home-School Relationship</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Parent Interviews</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>b. Home visits</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>c. Parent visits to school shop</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>d. Other</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

TABLE 19

REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS ON DEVELOPMENT OF HOME-SCHOOL RELATIONSHIP

<table>
<thead>
<tr>
<th>Methods Used by Industrial-Arts Department to Develop Home-School Relationship</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Parent interviews</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>b. Home visits</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>c. Parent visits to school shop</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>d. Other</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

TABLE 20

REACTION OF NINE STATE SUPERVISORS OF GUIDANCE ON DEVELOPMENT OF HOME-SCHOOL RELATIONSHIP

<table>
<thead>
<tr>
<th>Methods Used by Industrial-Arts Department to Develop Home-School Relationship</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Parent interviews</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>b. Home visits</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>c. Parent visits to school shop</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>d. Other</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Parent Interviews

The parent interview may take place at the school or at the home of the pupil. These interviews are usually by appointment, and are carefully planned in order to contribute to pupil understanding and adjustment. Erickson (29:342) suggests that there are certain times during the year when the parent may well be called to the school for a conference on some specific problem that must be worked out within a limited time. He also suggests that the teacher may have regular office hours during the week, at which times any parent may come in without an advance appointment.

Strang comments that (79:104) "Interviews with parents are preferably a 'joint quest.' Parents have much to contribute. Their opportunities for understanding their own child far exceed those of the teacher. Parents can help teachers and counselors understand students."

Germane and Germane discuss the parent interview as follows: (37:135)

In not a few large school systems, teachers are requested to interview the parents of the students assigned to them for sponsoring or homeroom guidance. These parents are interviewed by appointment either in the school (preferably) or at home, and at times convenient for the parents.

All of those answering the questionnaire showed a definite awareness of the value of parent interviews
in developing the home-school relationship. The department heads indicated that about one-half used this method, and four-fifths of the leaders and supervisors considered it desirable.

**Home Visits**

An informal visit to the home of the pupil may sometimes accomplish more than an appointed parent interview at home or at school. The element of guarded formality is missing, and parent and teacher may be led to mutual understanding and cooperation. Harriman considers the home visit a required procedure in individual counseling. He states: (40:353)

> A teacher never really knows her pupils until she has visited their homes. It is unfortunate that home visits should often mean that the pupil is in some difficulty. Friendly, social calls at the home will bring the parents into sympathetic cooperation with the school and give the teacher a better insight into the pupil's background and personality. The teacher or counselor should not wait until a problem has arisen before these contacts are established.

Repeatedly the counselor finds that pupil problems have their roots in the attitudes of parents. A home that is economically poor is not necessarily a home that is psychologically bad. Querulous, frustrated, envious parents often pass along to the children their own burdens of maladjustment.

Nearly all of the leaders of industrial arts consider home visits desirable, and about two-thirds of the supervisors indicate that they are desirable, but only one-fourth of the department heads use home visits as a means
of developing the home-school relationship.

**Parent Visits to the School Shop**

Parent visits to the school are sometimes helpful in pupil understanding and adjustment. The industrial-arts department often finds it easy to enlist the cooperation of the fathers in school visits because most men are interested in the shop arrangement, procedures and machinery. After their interest has been aroused, it is possible to bring the problems of the pupil into an established, friendly relationship.

Erickson says that, in addition to formal and informal scheduled contacts with parents, they should feel welcome to visit the school at any time. (29:342)

Germane and Germane say that parent visits to the school assist in developing a proper spirit of cooperation. (37:430)

Another plan is to have the parents visit the school. This, too, must be planned systematically so that parents will be given ample time to talk over with the teacher their son's or daughter's abilities and problems. Many teachers and administrators think it much more valuable for parents to visit the school than for the teacher to visit the home. At school it is possible to present to the parents not only the information about the student's abilities, interests and needs in each of the areas of experiencing, but, what is more, parents can see how the school is trying to build up the student by its divided curricula: clubs, homerooms, social organizations, and other extra-curricular activities.
Parent visits to the school shop are considered the best method of fostering the home-school relationship by department heads, leaders and supervisors. Two-thirds of the department heads use this method, and nearly all of the leaders and supervisors consider it desirable. Almost one-half of the leaders consider it necessary.

The Other Methods of Establishing Desirable Home-School Relationships

Other methods of establishing such cooperation and understanding are through the "open house", the school exhibit, the "parent's day", the Parent-Teacher Association, and through liaison officials. There are many additional methods particularly adapted to their locality or of limited usage which are not discussed here. One of the most effective methods discussed by Ericson to present the shop program to parents is the school "open house". He says: (30:343)

In many school systems the "open house" has become an annual affair. On this occasion, the entire school is usually run in the evening as in daytime, in order to give the parents and patrons an opportunity to see its varied activities. Needless to say, the shop program may be a large part of the attraction because of the very nature of the work. Exhibits may be featured, as may also special construction devices and machines.

About one-sixth of the department heads and one-fifth of the leaders of industrial arts consider some of these other methods desirable, but none of the
supervisors consider other methods either desirable or necessary.

Methods most frequently mentioned were: (1) open house; (2) Annual tea; (3) Exhibit; (4) Parent-Teacher Association; (5) Letters; (6) Phone calls; (7) Hobby shows; (8) Dad's Day.

Summary of the Development of the Home-School Relationship by the Industrial Arts Department

A study of contemporary literature reveals that a good home-school relationship can be of assistance to the pupil, the parent and the school. The industrial-arts department has the responsibility of assisting in the development and maintenance of this relationship.

The industrial-arts department heads indicate a definite awareness of their responsibility in the development of the home-school relationship. One-half of them conduct parent interviews, and two-thirds have the parents visit the school shop. Home visits were least favored, with one-fourth making such visits.

Nearly all of the leaders and supervisors considered each of the listed methods desirable, with home visits being least favored in this group, also.

Special Provision for the Adjustment of the Exceptional Pupil in the Industrial Arts Department

The exceptional pupil fails to make satisfactory
adjustments much of the time. He may be a "slow-learner", almost unable to participate in academic subjects. Many schools in the past suffered from the illusion that a child who was unfit for participation in the average academic class was thereby qualified for training in mechanical and manual processes. They assumed that absence of scholastic aptitude indicated the presence of mechanical aptitude, if one can judge by appearances. For that reason, it was formerly the custom to place such "slow-learners" in the industrial-arts shop, there to remain until the attainment of the legal age for quitting school.

Lack of adjustment may be due to many causes. It may be traced to physical, emotional, mental, social, and spiritual origins. Lack of adjustment is not necessarily a matter of intelligence, except in the case of the "slow-learner" and the unusually intelligent child. Some maladjusted persons are subnormal, others are normal or supernormal.

Some of the larger schools make special provision for the maladjusted pupil. Specially trained teachers are used to diagnose maladjustments and deal with abnormal behavior. Most educators admit that the best way of handling maladjusted pupils is through careful and clinical examination, followed by help from specially trained teachers. Where these cannot be called upon for
assistance, the industrial-arts teacher may be able to assist in the process of pupil adjustment.

Struck makes the following statement about industrial arts and the maladjusted pupil: (80:14)

While, by and large, industrial arts is not a cure for inharmoniously adjusted persons, it would be wrong to conclude that industrial-arts education may not be helpful for maladjusted pupils. There are numerous reasons for believing that for some, the practical arts are the best means of overcoming some of the less serious forms of maladjustment.

The following tables indicate the responses to the question: Is special provision made for the adjustment of the following types of pupil? Do you supply this information to other school departments? Is the information incorporated in the school's inventory of the individual pupil?

Table 21 reveals the reaction of the heads of industrial-arts departments to the question. Tables 22, 23 and 24 indicate the response of the leaders of industrial arts, the supervisors of industrial arts, and the guidance supervisors, respectively, to the same question. They were asked to indicate which of these provisions for exceptional pupils were desirable in the industrial-arts department, and which were necessary. Types of exceptional pupils included were the slow-learner, the fast learner, the withdrawn personality, the aggressive personality, and the disciplinary problem.
### TABLE 21

**REACTION OF 602 INDUSTRIAL-ARTS DEPARTMENTS ON SPECIAL PROVISION FOR THE EXCEPTIONAL PUPIL**

<table>
<thead>
<tr>
<th>Types of Exceptional Pupil for whom Special Provision Is Made</th>
<th>Percentage of Occurrence</th>
<th>By</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Slow learner</td>
<td>80</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>b. Fast learner</td>
<td>75</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>c. Withdrawn personality</td>
<td>49</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>d. Aggressive personality</td>
<td>51</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>e. Disciplinary problem</td>
<td>61</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

### TABLE 22

**REACTION OF TEN LEADERS IN INDUSTRIAL ARTS ON SPECIAL PROVISION FOR THE EXCEPTIONAL PUPIL**

<table>
<thead>
<tr>
<th>Types of Exceptional Pupil for whom Special Provision Is Made</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Slow learner</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>b. Fast learner</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>c. Withdrawn personality</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>d. Aggressive personality</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>e. Disciplinary problem</td>
<td>8</td>
<td>4</td>
</tr>
</tbody>
</table>

### TABLE 23

**REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS ON SPECIAL PROVISION FOR THE EXCEPTIONAL PUPIL**

<table>
<thead>
<tr>
<th>Types of Exceptional Pupil for whom Special Provision Is Made</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Slow learner</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>b. Fast learner</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>c. Withdrawn personality</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>d. Aggressive personality</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>e. Disciplinary problem</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>
TABLE 24
REACTION OF NINE STATE SUPERVISORS OF GUIDANCE ON SPECIAL PROVISION FOR THE EXCEPTIONAL PUPIL

<table>
<thead>
<tr>
<th>Types of Exceptional Pupil for whom Special Provision Is Made</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Slow learner</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>b. Fast learner</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>c. Withdrawn personality</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>d. Aggressive personality</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>e. Disciplinary problem</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

The Slow Learner

Leaders in industrial arts have given much consideration to the problems of the sub-normal child because their departments have been used as the school dumping-ground for the slow learner. Smith considers that the industrial-arts department has a responsibility in improving his adjustment, but emphasizes that this department has not the prime responsibility in maladjustment cases. Smith says: (75:143)

Subnormal groups are common and have been handled largely by specially prepared teachers. This plan seems likely to be continued, but the industrial-arts teacher's responsibility for at least some of these pupils will undoubtedly increase. We should be learning the psychology and method of this special field of service.

De Giacomo also comments on the problem, as follows: (18:125)

The slow-learning children, particularly those in the so-called retarded classes, present
a scholastic problem because they usually lack good judgment and common sense, and often fail to display sufficient resourcefulness, reasoning, initiative, and insight. However, with these obvious shortages much can be accomplished in developing them to the full extent of their capacity if purposeful and planned handiwork is given.

The heads of industrial-arts departments are apparently very much aware of their responsibility for making special provision in their departments for the slow learner. Four-fifths of the department heads make some such provision. All of the leaders of industrial arts consider this desirable, and more than two-thirds consider it necessary. Nearly all of the supervisors likewise consider this desirable.

The Fast Learner

The brilliant pupil, or "fast learner" was for a long time considered unsuited to courses in industrial arts. Many thought that his superior mental ability would be unchallenged and unstimulated by the shop atmosphere and course content of the industrial-arts program. Lack of a background in industrial arts and industrial education has often operated as a handicap to him in later life. The Harvard Report (65:160) indicated that the training in mechanical processes and knowledge was a necessary background for the pupil looking forward to advanced scientific and technical
training. Other members of the superior group who are barred from advanced training because of financial considerations are potential industrial leaders. Their outlook may be assisted because of their intelligence and background of mechanical training and knowledge. Because industrial arts is potentially valuable to these pupils, they should be considered in planning the course, and given the privilege of an enriched content and research beyond the usual shop level.

Crawford, in a discussion of practical psychology in the school shops, dealt with methods of utilizing the superior intelligence of the gifted child to his ultimate advantage. He states: (15:225)

There are many real problems in better and more economical project designs that can be turned over the right students in every shop, with excellent results to be gained in general discipline and shop efficiency. In more progressive schools, ways are found these days to specially schedule certain brighter students so they can serve as managers in lower shop sections, where their many capabilities can be better developed. Special research groups and shop clubs can serve to promote healthy competition among equally high I. Q. students. There is no danger that such grouping will produce any special personality defects; these students already know they are brighter than average, if they have any sense at all to see their obvious levels within the group as a whole. Natural leadership ability left undeveloped or dormant will never result in a nicely adjusted life.

The department heads also indicate that they are aware of their responsibilities toward the fast learner.
About three-fourths make special provision for the fast learner. All of the leaders consider such provision desirable, and two-thirds consider it necessary. Most of the supervisors also consider this desirable.

The Withdrawn Personality

The pupil who is maladjusted socially, and who suffers from real or imagined physical or intellectual inferiority is apt to develop serious emotional manifestations. He may become a recluse, a shut-in personality, and one who is very difficult to reach. When this condition is present to an advanced degree, it is important to refer the pupil to competent psychiatric treatment. When the symptoms are present to a lesser degree, the hope for maximum progress lies in the careful case-study of each such pupil by medical experts. However, in the school which does not provide such specialized services the pupil who is not seriously maladjusted may be assisted by the therapeutic experiences of handicraft and hobby activities. Crawford says:

(15:225)

Withdrawal, exclusiveness: This defense mechanism has several common forms and causes. The defeated and badly discouraged child may completely withdraw from the aggravating world about him, into the less disheartening seclusion of day dreams and phantasies... If all other defensive adjustments are denied a maladjusted boy or girl, the child naturally turns to extreme exclusiveness at a quiet and very orderly
defense mechanism that rarely draws down disciplinary wrath, because it is rarely viewed as dangerously maladjustive. Withdrawing thus may be habituated, spreading gradually to include the whole mental activity. . . . Active interests in extravertive play and shopwork and hobbies will help to prevent such cases, and is part of good therapeutic treatment. But the fundamental cause of the maladjustment must be discovered and treated if complete rehabilitation is to be accomplished.

Where the shop teacher understands the psychological implications of these maladjustments, and has the wisdom to avoid appearance of diagnostician or clinician, that shop has many psychotherapic potentialities.

Special provision for the withdrawn personality is apparently considered least essential of the services for the maladjusted pupil, though about one-half of the department heads make such provision, and most of the leaders and supervisors consider it desirable.

The Aggressive Personality

The aggressive personality is reacting to frustrations in the opposite manner from the withdrawn personality. Instead of retiring from life-situations, the pupil with the aggressive personality attacks. Psychologists and sociologists are almost unanimous in agreeing that the most desirable response to a difficult situation is the wholesome fight reaction. (37:891) However, if he resorts to bullying, cheating, stealing, or taking unfair advantage, then such reactions are a detriment to self and society. Moreover, the aggressive personality will
be at a disadvantage in society and in industry. He must be helped to realize the roots of his aggressive reaction, and strive to overcome the manifestations if he wishes to adjust satisfactorily to life situations.

Germane and Germane (37:424) say that the disagreeably over-aggressive student should not be scolded or threatened. The teacher should try to find what motive is being satisfied by this behavior, and help the student to understand why he has been using certain defense mechanisms or other types of adjustment patterns instead of facing reality.

Special provision for the aggressive personality in the industrial-arts department is considered next to the least valuable of the listed provisions, though more than one-half of the department heads do make such provision, and most of the leaders and supervisors consider it desirable.

The Disciplinary Problem

The pupil who is referred to as a disciplinary problem may be maladjusted to varying degrees. He may cause minor behavior difficulties that temporarily upset the routine of the classroom. The pupil who is not adapted to academic subjects may present a behavior problem of this sort. If he possesses mechanical aptitude, he may adjust satisfactorily to the industrial-arts course, and
his behavior may be improved.

The extreme degree of maladjustment which is sometimes seen in severe disciplinary problems should be referred to psychiatric assistance. The average teacher is not trained to deal with serious behavior abnormalities.

Ericson says of discipline in the school shop: (30:84)

The interpretation of discipline in the school room has changed materially in recent years. In contrast to the old thought of implicit obedience to rules and regulations, the modern teacher considers effective discipline to be connected with self-imposed personal and social adjustments on the part of the pupil--adjustments that will foster habits of thinking and of conduct that will lead to social responsibility both in present and future life.

For the school shop, successful discipline of the type discussed here is largely dependent upon the following conditions: (1) interest and understanding on the part of the pupil, (2) careful planning by the instructor, and (3) suitable working conditions.

The industrial-arts department heads also indicate an awareness of their responsibility toward the disciplinary problem. Almost two-thirds make special provisions for his adjustment. Nearly all of the leaders and supervisors also consider this desirable.

Summary of Special Provision for the Adjustment of the Exceptional Pupil in the Industrial-Arts Department

Literature dealing with exceptional children emphasizes the fact that their lack of adjustment may be traced to physical, emotional, mental, social, and spiritual origins. Most educators agree that the best
way of handling such pupils is through clinical examination, followed by instruction from specially trained teachers. Where such help is not available, the industrial-arts teacher may be able to assist in the process of adjustment of certain types of exceptional pupil.

Responses from the four groups to whom the questionnaire was sent indicated a general agreement on the responsibility of the industrial-arts department toward the exceptional pupil. All sources revealed closer agreement on the desirability of this service than on any other function of the department.

The tables reveal that about one-half of the department heads make special provision for the adjustment of withdrawn and aggressive personalities, and more than three-fourths do the same for slow-learners and fast-learners.

Nearly all of the leaders of industrial arts and supervisors of industrial arts and guidance agree that special provision for all types of exceptional pupils listed is a desirable service of the industrial-arts department, and a majority of the leaders consider such provision necessary for slow-and fast-learners.

Leisure-Time Activities in the Industrial-Arts Department

The concern of educators and sociologists over the
wise use of leisure time is a recent development. At present, it is generally recognized that training in the use of leisure time is a school function. One of the Seven Cardinal Principles of Secondary Education is "training children in the wise use of leisure time."

Sauvain demonstrates the importance of such a principle when he presents figures showing that the average work week in the United States is now being shortened by about an hour every year. (71:310) He further states that the amount of money spent for leisure-time pursuits varies from $10,000,000,000 to $21,000,000,000 a year, and that the lack of knowing what to do with leisure time is probably partly responsible for the tremendous increase in mental cases and insanity.

Germane and Germane list four values realized in wholesome leisure-hobby activities, as follows: (37:486)

1. a possible discovery of some special aptitude or ability which would help in one's choice of a vocation,
2. a discovery of some area of interest which would enrich one's cultural background and develop an appreciation of certain aspects of life,
3. a discovery of friends having kindred interests rich in promise of mutual growth, and
4. a discovery of activities conducive to one's growth in physical health.

Myers makes the following statement about the place of the industrial-arts teacher in recreational guidance:
The industrial-arts teacher should be a good counselor concerning those recreations that are closely related to the subjects he teaches. Further, if he is well acquainted with the recreational activities of his community, he may be helpful to his pupils in finding wholesome places for themselves in these activities. With the shortening of the working hours in business and industry, the schools are faced with the necessity of giving much more attention to recreational guidance. When this is done, it will be found that industrial arts can and must make a large contribution.

The leisure-time activities in the industrial-arts department are dealt with in the following tables. The question was: Are leisure-time activities developed in your shop by the following methods or considerations? Do you supply information about these activities to other school departments? Is the information incorporated in the school's inventory of the individual pupil?

Table 25 reveals the response of the heads of industrial-arts departments to the question. Tables 26, 27 and 28 respectively indicate the reaction of the leaders of industrial arts, the supervisors of industrial arts, and the supervisors of guidance services.

Is Part of the Shop Organized for Recreational Handicrafts?

If the industrial-arts teacher is interested in teaching recreational handicrafts, he should consider their use as hobbies in the pupil's later life. If these handicrafts involve the use of elaborate materials or expensive tools and equipment, it is not probable that
TABLE 25
REACTION OF 602 INDUSTRIAL-ARTS DEPARTMENT HEADS ON
DEVELOPING LEISURE-TIME ACTIVITIES IN THE
INDUSTRIAL-ARTS SHOP

<table>
<thead>
<tr>
<th>Methods of Developing Leisure-Time Activities</th>
<th>Percentage of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By Industrial Arts Dept.</td>
</tr>
<tr>
<td>a. Is part of shop organized for recreational handicrafts?</td>
<td>49</td>
</tr>
<tr>
<td>b. Are pupils instructed in value of hobbies?</td>
<td>81</td>
</tr>
<tr>
<td>c. Are recreational aspects of mechanical activities a part of the program?</td>
<td>50</td>
</tr>
<tr>
<td>d. Are hobby clubs used?</td>
<td>32</td>
</tr>
<tr>
<td>e. Are pupils permitted to choose work they enjoy?</td>
<td>86</td>
</tr>
<tr>
<td>f. Do you help pupils to plan home workshops?</td>
<td>73</td>
</tr>
<tr>
<td>g. Do you teach simple home mechanics?</td>
<td>71</td>
</tr>
</tbody>
</table>

TABLE 26
REACTION OF TEN LEADERS OF INDUSTRIAL ARTS ON
DEVELOPING LEISURE-TIME ACTIVITIES

<table>
<thead>
<tr>
<th>Methods of Developing Leisure-Time Activities</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Is part of shop organized for recreational handicrafts?</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>b. Are pupils instructed in value of hobbies?</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>c. Are recreational aspects of mechanical activities an integral part of the program?</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>d. Are hobby clubs used</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>e. Are pupils permitted to choose work they enjoy?</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>f. Do you help plan home workshops?</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>g. Do you teach home mechanics?</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>
### TABLE 27

**REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS ON DEVELOPING LEISURE-TIME ACTIVITIES**

<table>
<thead>
<tr>
<th>Methods of Developing Leisure-Time Activities</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Is part of shop organized for recreational handicrafts?</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>b. Are pupils instructed in value of hobbies?</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>c. Are recreational aspects of mechanical activities an integral part of the program?</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>d. Are hobby clubs used?</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>e. Are pupils permitted to choose work they enjoy?</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>f. Do you help pupils to plan home workshops?</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>g. Do you teach simple home mechanics?</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

### TABLE 28

**REACTION OF NINE STATE SUPERVISORS OF GUIDANCE ON DEVELOPING LEISURE-TIME ACTIVITIES**

<table>
<thead>
<tr>
<th>Methods of Developing Leisure-Time Activities</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Is part of the shop organized for recreational handicrafts?</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>b. Are pupils instructed in the value of hobbies?</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>c. Are recreational aspects of mechanical activities an integral part of the program?</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>d. Are hobby clubs used?</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>e. Are pupils permitted to choose work they enjoy?</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>f. Do you help pupils to plan home workshops?</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>g. Do you teach simple home mechanics?</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>

Many pupils will continue to use them. Sauvain considers shop work valuable in teaching the worthy use of leisure.
He states: (71:324)

... shop work does reveal numerous possibilities for the profitable employment of leisure time. As a direct result of work in shops, many people have established hobbies which they continue throughout adult life. Numerous creative media are employed in the shops of the more progressive schools of America today. Some students learn to work in wood; others, in metal, leather, pottery, jewelry, or plastics. The important thing for the shop teacher to remember, if there is to be a carry-over to out-of-school life, is that the student should find distinct pleasure in doing the thing in school.

About one-half of the department heads represented in Table 25 have part of their shops organized for recreational handicrafts. Nearly all of the leaders and supervisors of industrial arts, and all of the guidance supervisors consider this desirable, and nearly half of the leaders indicate that it is necessary.

Are Pupils Instructed in the Value of Hobbies?

It is only in recent years that hobbies have been recognized as having a proper place in the school. As modern educators, philosophers and psychologists began to emphasize the importance of properly utilizing leisure time, the school began to make a place for the hobby in the school activities. Jones (47:446) considers industrial arts valuable in developing the skills essential to appreciation and creation.

Industrial arts is valuable for its contributions to constructional hobbies. One of its objectives is to
develop recreational and avocational activities. Wilber (88:62) considers that one of the desirable behavior changes is that the pupil will become interested in, and will engage in, one or more constructional hobbies. Lessons contributing to this behavior change emphasize the followings (88:65)

Discuss hobbies and explain their value. Cite examples of cases where hobbies have contributed to progress and success. Give demonstrations in such a way as to indicate the recreational aspect of handicraft. Have individual and group conferences with students concerning their hobbies.

The department heads apparently consider instruction in the value of hobbies the second-best method of developing leisure-time activities, with four-fifths indicating that they use this method. Three-fourths of the leaders and supervisors of industrial arts, and all of the guidance supervisors consider this method desirable.

Recreational Aspects of Mechanical Activities

The mechanical activities carried on in the school shop are extremely varied. Woodworking is probably the most common mechanical activity, but many shops include metal-working, ceramics, plastics, leather-working, and other types of work. All of these activities have valuable recreational aspects.

Frankel makes the following statement: (32:151)
On the personal guidance side, industrial arts, because many hobbies stem from them, may lead the way to more valuable utilization of leisure time in later life. The lawyer who makes objects of plastics, the advertising agency art director who makes ceramic articles in his spare time, the grocery whole-saler who has a woodworking shop in his basement all enjoy hobbies which give them far greater play and pleasure benefit than could a constant round of movie-going, long evenings spent reading detective stories or playing cards.

Myers also emphasizes the necessity for informing the pupil of the recreational aspects of mechanical activities. He says: (58:64)

Turning to recreational guidance, it seems reasonable to expect that the industrial-arts teacher should help his pupils to inform themselves concerning the opportunities and requirements of avocations or hobbies—recreational activities—that are based upon the work of this department. Certainly much of the self-knowledge acquired by the pupil in industrial-arts classes should be helpful to him in planning his recreational life. Certainly, also, should the information gathered by the industrial-arts teacher concerning his pupils have distinct value in recreational counseling.

Only about one-half of the department heads emphasize the recreational aspects of the mechanical activities taught in their shops. This is in agreement with the leaders of industrial arts, one-half of whom consider this desirable, but almost all of the supervisors indicate that this is desirable.

Are Hobby Clubs Used?

Germane and Germane have listed as one of the values
realized in wholesome leisure-hobby activities, a
discovery of friends having kindred interests rich in
promise for mutual growth. (37:486) This statement is
the basic idea of the Hobby Club.

Hobby Clubs have been widely accepted in industrial-
arts shops emphasizing recreational handicrafts. They
contribute to the enjoyment and development of the pupil
by giving him a social outlet for his hobby interests.
Wilber lists as another desirable behavior change that
the pupil will make the acquaintance of, and form
friendships with, others having similar interests. He
suggests the following activities to carry out this
objective: (88:68)

a. Initiate informal clubs for students having
similar interests.
b. Bring together students from different classes
who have common interests.
c. Urge the formation of hobby clubs outside of
school.

The use of hobby clubs as a means of developing
leisure-time activities received the smallest response
from the department heads, only one-third of whom
indicated that they used such clubs. Nearly all of the
leaders and supervisors consider hobby clubs desirable.

Are Pupils Permitted to Choose Work They Enjoy?

As modern educators have become aware of the effect
of pupil-interest on achievement, they have emphasized
the importance of allowing the interests and desires of the pupil to motivate his work. This has always been true to a certain extent in the industrial-arts shop, where the child is encouraged to engage in creative work for purposes of development and personal enjoyment. Industrial-arts teachers are aware of the values of pupil-selection for personal development. Schmidt presents this viewpoint in the following statement: (72:227)

The pupil should be permitted, under proper guidance and supervision, to work on anything he or she chooses. The extent of pupil activity should be determined by pupil and plant limitations only.

Wilber also emphasizes the value of pupil choice. He suggests as a desirable behavior change that the pupil will suggest and work on projects related to his hobby interest. (88:69) The teacher may help the pupil to think along lines related to his hobby when the pupil is choosing and planning his project.

The department heads are highly conscious of the value of permitting the pupils to choose work they enjoy. More than five-sixths of them indicate that they do this, and nearly all of the leaders and supervisors consider it desirable.

Do You Help Pupils to Plan Home Workshops?

The home workshop is recognized by many of the leaders of industrial arts as a valuable outlet for leisure
time interests and an equally valuable supplement to school-shop activities. Wilber suggests that, in addition to helping the pupil to plan home workshops, the industrial-arts teacher should encourage the pupil to make equipment and tools which can be used in the home. He also suggests that this may be valuable in fostering better home-school relationships. (88:68) Ericson says: (30:141)

If the shop instructors should spend a little time in their classes in encouraging this idea, then work out a bulletin covering needed equipment and valuable instruction booklets, offering also their personal service to the boy and the home, if need be, there is a likelihood that the effort would repay in interest developed in both pupils and parents.

Willoughby lists the following major benefits resulting from a school-sponsored home-shop program:

(93:13)

1. Home shops give the boy opportunity for direct contribution to his home through repair, maintenance, and construction jobs within his ability.
2. Home shops give the boy opportunity to pursue a desirable avocation in the home under trained supervision.
3. Home shops give the possibility of close cooperation between the shop and the home.
4. Home shops increase the interest in school-shop activities.
5. Home shops create a greater respect for tools.
6. Home shops encourage orderliness in the care of tools and equipment.
7. Home shops assist in the teaching of safety and safe practices emphasized in the school shop.

The planning of home workshops is another method of
developing leisure-time activities that is favored by the department heads. Three-fourths of them do help the pupils in this way, and nearly all of the leaders and supervisors consider this desirable.

Do You Teach Simple Home Mechanics?

One of the desired goals of industrial arts is the ability to use tools and materials leading to household maintenance, leisure time pursuits, and, in some degree, to basic occupational skills. The teacher who keeps this goal in mind will contribute to the realization of the third of the Cardinal Principles of Secondary Education, which is "Worthy Home Membership". The development of common skills in the use of materials (handy-man activities) the intelligent selection and use of industrial products, and simple construction and repair projects will contribute to worthy home membership.

The Bulletin entitled "Improving Instruction in Industrial Arts", contains the following suggestions for things to be taught in home mechanics: (43:22)

- Things that young people can do as a contribution to the upkeep of their homes.
- Things that teach the proper use and care of equipment about the house, indoors and out.
- Things that practically all adults should know how to do, regardless of their earning occupations.
- Things that lead to a better understanding of the environment and develop the desire to make improvements with small expense.
The department heads are also aware of their responsibility toward worthy home membership. This is indicated by almost three-fourths of these teaching simple home mechanics, which is also considered desirable by most of the leaders and supervisors.

Summary of Leisure-Time Activities in the Industrial-Arts Department

The necessity for training in the wise use of leisure time and the methods of developing leisure-time activities are revealed in contemporary literature. The importance of such training is indicated by the increased leisure time resulting from a shorter work week, and the enormous expenditures for leisure-time activities. The industrial-arts teacher should be a good counselor concerning those recreations that are closely related to the subject he teaches.

The heads of the industrial-arts departments reveal an active awareness of their responsibilities and potentialities in the development of leisure-time activities. More than four-fifths instruct pupils in the value of hobbies and permit the pupils to choose work they enjoy. The method least often considered is the use of hobby clubs, but almost one-third include this in their programs. Leisure-time activities in the home and the use of simple home mechanics are fostered by almost three-fourths of the
department heads.

Nearly all of the leaders of industrial arts and the supervisors of industrial arts and guidance consider each of the methods of developing leisure-time activities desirable, though the leaders consider the recreational aspects of mechanical activities least desirable. A few of the leaders consider each method necessary.

The Role of the Industrial-Arts Department in the Presentation of Occupational Information

Many educators say that the industrial-arts department and the industrial-arts teacher have a definite responsibility for formulating a program of information concerning occupations. At one time, the presentation of occupational information was considered a function of the guidance department. The industrial-arts department was thought to have no responsibilities in this direction.

In the last decade, the viewpoint of many educators has shifted. In some cases, the industrial-arts teacher has been assigned or has assumed some of the responsibility for presenting occupational information. Erickson and Smith say: (28:86)

Classroom teachers occupy an especially favorable position with respect to the dissemination of occupational information to individuals and groups. The inherent relationships that exist between school subjects and occupational choice frequently lead pupils to seek out subject teachers for information about occupations in areas related to a specific high school subject.
Teachers need to be familiar with occupational families that require intensive training in the subjects that they teach, as well as with educational institutions, apprenticeship, and on-the-job training opportunities in occupations to which their respective subjects are related.

The bulletin entitled "Improving Instruction in Industrial Arts" states that each instructor has the responsibility of imparting guidance information regarding the work fields represented by his subject, in addition to the technical and foundational knowledge that seems essential. The individual instructor, in view of his aims and surroundings, determines the amount and kinds of such information. (43:13)

Myers expresses this responsibility in the following statement: (58:55)

It will be granted at once that the work of the industrial-arts department of the junior or senior high school, whether this department includes only a general shop or a series of specialized shops or both of these, provides the best opportunity afforded to its pupils by the school to become acquainted with the tools, machines, materials, and processes of several important trades and semi-skilled occupations. In each of these occupations, what the worker does and what he does it with are brought home to the pupils not merely by books and talks, but by actual experiences. No other high school subjects, with the exception of typing and shorthand, so nearly reproduce actual experiences of occupations. It should be noted, also, that the pupil obtains by means of the industrial-arts subjects acquaintance with the general character of work done in the field of mechanical occupations as contrasted with other fields.

But it must not be forgotten that the usual industrial arts program in high school, however, complete though it may be, supplies pupils only with a fraction of the information needed in order
to serve as a basis for choosing an occupational life-work. One needs to know not only the nature of the work and the tools and materials used in doing it, but also the number of people employed in it, whether they are concentrated in a few places or widely distributed, the general education and special preparation needed, the personal qualities that are important, the working conditions as to hours and surroundings, the earnings one may expect, and the opportunities for advancement. If the pupil is to obtain this additional information concerning the occupations represented in the industrial-arts department that is needed to aid him in deciding whether he should engage in any one of these occupations, when and where shall he obtain it? Certainly there is no other time better than when he is working at the processes of these occupations and no other place better than in the school environment that most nearly represents these occupations.

But this additional vocational information will not come into its proper place in the industrial-arts program incidentally nor find its way there unaided. It will be there only if it is made a part of the course of study, and is taught by a teacher who himself knows it, recognizes its importance, and is as interested in teaching it as he is in teaching industrial processes. Its value to the general education of the pupil, as well as to his vocational guidance, cannot be questioned.

Ericson, in his recent text-book entitled *Teaching the Industrial Arts*, devotes the following discussion to occupational information: (30:178)

Instructors of shop subjects are in a unique position for assisting youth in learning about a large field of occupations. One of the principal objectives for the work in secondary schools is the opportunity to explore mechanical occupations.

With this aim in view, the instructor will at all times see to it that shop conditions parallel as nearly as possible those of industry. The need for "shop atmosphere" has been stressed previously. But the instructor's opportunity does not end with the practical work at the bench or at the machine. There is much valuable information
about the occupation represented, and about related occupations that will not come into the student's possession through the limited amount of manipulative work which is possible in the school. It is the duty of the instructor to analyze such informational material, and to select from it such phases for presentation as will help the student to make a more intelligent future vocational choice.

There is no good reason why the instructor, when planning the program for the theoretical material, should not also include such phases of that material as may have no other specific purpose devoted to it than to enlighten students in regard to the characteristics of the trade and its related branches as a possible future vocation for the members of the class. The need for covering the broad field of allied occupations is evident when we consider the fact that one shop activity may represent ten or more distinct trades.

The following tables reveal the reaction of the four groups who answered the question: Does your shop program provide for presenting the following occupational information? Does your department supply this information to other school departments? Is the information incorporated in the school's inventory of the individual pupil?

Table 29 deals with the response of the heads of industrial-arts departments to the question. Tables 30, 31 and 32 indicate the reaction of the leaders of industrial arts, the supervisors of industrial arts, and the supervisors of guidance services, respectively. These men were asked to indicate which of the means of presenting of occupational information they considered desirable, and which of these were necessary.
TABLE 29

REACTION OF 602 INDUSTRIAL-ARTS DEPARTMENT HEADS ON PRESENTATION OF OCCUPATIONAL INFORMATION

<table>
<thead>
<tr>
<th>Means of Presenting Occupational Information</th>
<th>Percentage of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Industrial Arts Dept.</td>
</tr>
<tr>
<td>a. Adequate selection of occupational books</td>
<td>46</td>
</tr>
<tr>
<td>b. Dictionary of Occupational Titles</td>
<td>28</td>
</tr>
<tr>
<td>c. Occupational briefs, monographs, pamphlets</td>
<td>44</td>
</tr>
<tr>
<td>d. Film strips and motion pictures of occupations</td>
<td>60</td>
</tr>
<tr>
<td>e. Pupil visits to local occupational activities</td>
<td>58</td>
</tr>
<tr>
<td>f. Community occupational survey</td>
<td>22</td>
</tr>
<tr>
<td>g. Study of employment trends</td>
<td>27</td>
</tr>
<tr>
<td>h. Guest speakers discussing occupational fields</td>
<td>31</td>
</tr>
<tr>
<td>i. Study of entry occupations</td>
<td>21</td>
</tr>
<tr>
<td>j. Emphasis on occupations considered by pupil</td>
<td>42</td>
</tr>
<tr>
<td>k. Instructions on sources of occupational information</td>
<td>37</td>
</tr>
<tr>
<td>l. Methods of preparing job analyses</td>
<td>24</td>
</tr>
<tr>
<td>m. Instructions on use of job analyses</td>
<td>23</td>
</tr>
<tr>
<td>n. Shop clubs to study careers</td>
<td>12</td>
</tr>
<tr>
<td>o. Information on opportunities for vocational training</td>
<td>53</td>
</tr>
<tr>
<td>p. Do you assist the pupil in rating his personality from the employer's viewpoint?</td>
<td>36</td>
</tr>
<tr>
<td>q. Is occupational information limited to those experience areas explored by your shop?</td>
<td>36</td>
</tr>
</tbody>
</table>

Adequate Selection of Occupational Books

Information which gives an insight into occupations may
### TABLE 30

**REACTION OF TEN LEADERS IN INDUSTRIAL ARTS ON PRESENTATION OF OCCUPATIONAL INFORMATION**

<table>
<thead>
<tr>
<th>Means of Presenting Occupational Information</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Adequate selection of occupational books</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>b. Dictionary of Occupational Titles</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>c. Occupational briefs, monographs, pamphlets</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>d. Film strips and motion pictures of occupations</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>e. Pupil visits to local occupational activities</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>f. Community occupational survey</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>g. Study of employment trends</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>h. Guest speakers discussing occupational fields</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>i. Study of entry occupations</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>j. Emphasis on occupations considered by pupils</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>k. Instructions on sources of occupational information</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>l. Methods of preparing job analyses</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>m. Instructions on use of job analyses</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>n. Shop clubs to study careers</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>o. Information on opportunities for vocational training</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>p. Do you assist the pupil in rating his personality from the employer's viewpoint?</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>q. Is your occupational information limited to those experience areas explored in your shop</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

be offered to the pupil in a number of ways. The most commonly used method of presenting such occupational information is through the use of textbooks and reference books. The study of occupational information by this method enables the pupil to cover more ground than can be covered by class talks.
TABLE 31
REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS
ON PRESENTATION OF OCCUPATIONAL INFORMATION

<table>
<thead>
<tr>
<th>Means of Presenting Occupational Information</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Adequate selection of occupational books</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>b. Dictionary of Occupational Titles</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>c. Occupational briefs, monographs, pamphlets</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>d. Film strips and motion pictures of occupations</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>e. Pupil visits to local occupational activities</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>f. Community occupational survey</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>g. Study of employment trends</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>h. Guest speakers discussing occupational fields</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>i. Study of entry occupations</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>j. Emphasis on occupations considered by pupil</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>k. Instructions on sources of occupational information</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>l. Methods of preparing job analyses</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>m. Instructions on use of job analyses</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>n. Shop clubs to study careers</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>o. Information on opportunities for vocational training</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>p. Do you assist the pupil in rating his personality from the employer's viewpoint?</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>q. Is your occupational information limited to those experience areas explored in your shop?</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Ericson says of this means: (30:180)

If the shop library is at all complete, it should have in it some good books on occupations. (Other books should be available in the main library of the school.) To such books, students may be directed for valuable information. Careful selection of material is essential, for not all books on occupations are equally good.
### TABLE 32

REACTION OF NINE STATE SUPERVISORS OF GUIDANCE ON PRESENTATION OF OCCUPATIONAL INFORMATION

<table>
<thead>
<tr>
<th>Means of Presenting Occupational Information</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Adequate selection of occupational books</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>b. Dictionary of occupational Titles</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>c. Occupational briefs, monographs, pamphlets</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>d. Film strips and motion pictures of occupations</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>e. Pupil visits to local occupational activities</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>f. Community occupational survey</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>g. Study of employment trends</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>h. Guest speakers discussing occupational fields</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>i. Study of entry occupations</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>j. Emphasis on occupations considered by pupils</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>k. Instructions on sources of occupational information</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>l. Methods of preparing job analyses</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>m. Instructions on use of job analyses</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>n. Shop clubs to study careers</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>o. Information on opportunities for vocational training</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>p. Do you assist the pupil in rating his personality from the employer's viewpoint?</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>q. Is your occupational information limited to those experience areas explored in your shop?</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

An adequate selection of occupational books was considered the fourth most important means of presenting occupational information by the industrial-arts department heads, nearly one-half of whom indicated that they had such a selection in their shops. More than two-thirds
of all the leaders and supervisors considered such a selection desirable, and two-thirds of the leaders indicated that such a selection was necessary in the industrial-arts shop.

**The Dictionary of Occupational Titles**

It is not practical for every teacher to attempt to develop much of his occupational information. He must depend on industry and government for reliable information about occupations. One of the best sources of material about specific jobs is the *Dictionary of Occupational Titles*.

A description of the scope of this dictionary is given by Forrester: (35:74)

In addition to giving accurate and uniform definitions of the enormous number of occupations, the Dictionary will show pupils the number and variety of occupations that exist and will draw attention to the enormous size of the list of jobs coded in the U. S. Employment Service. It also will give an idea of the many different types of positions which may be handled by a worker with a specific skill. A second volume, *Group Arrangement of Occupational Titles and Codes*, contains lists of all the job titles, arranged according to their occupational code numbers. As the code numbers reflect the characteristics of the jobs, those occupations that require similar training, abilities, and other qualifications are grouped together.

Only about one-fourth of the department heads include the *Dictionary of Occupational Titles* in their shop libraries, and one-half of the leaders and supervisors consider it desirable.
Occupational Briefs, Monographs, Pamphlets

A disadvantage of depending exclusively on textbooks and reference books is that working conditions change from year to year, and such books provide information that may be out of date. In addition to such material, the well-equipped shop or school library should possess all available information from public and private sources in the form of occupational briefs, monographs, pamphlets and bulletins.

Billings suggests that information about such material may be obtained from The Occupational Information and Guidance Service of the Office of Education, local boards of trade or chambers of commerce, and service organizations, such as Kiwanis, Rotary, Lions, and Business and Professional Women's Clubs. (7:114)

Less than one-half of the department heads use occupational briefs, monographs and pamphlets in presenting occupational information, and fewer than one-half of the supervisors of industrial arts consider them desirable, though more than three-fourths of the leaders and guidance supervisors consider this material desirable.

Film Strips and Motion Pictures of Occupations

Slides, film strips, and motion pictures are often useful in supplementing field trips to industry and in
illustrating industrial processes and conditions of work. Ericson makes the following statement about the use of motion pictures in presenting occupational information:

(30:183)

Motion pictures, as well as many other types of audio-visual education material, do have a definite place in the program of modern industrial-arts teaching. While the customary use of films is thought of as pertaining to occupational and related information, there are now valuable films available for giving instruction in manipulative processes as well. Every industrial-arts teacher should have access to proper equipment for using film slides and motion pictures, and should make full use of such equipment as a part of his teaching procedure.

The use of film strips and motion pictures of occupations is the most common means of presenting occupational information in the industrial-arts department. Almost two-thirds of the department heads use this means, and two-thirds of the supervisors of industrial arts consider it desirable, but nearly all of the guidance supervisors and all of the leaders consider it desirable, and two-thirds of the leaders consider it necessary.

**Pupil Visits to Local Occupational Activities**

The pupil who is considering entry into industry or into any occupation which is represented locally, will find it helpful to follow up his study of the occupation by a visit to the local occupational activity. Modern
business and industry have shown a willingness to cooperate with the teacher in giving interested pupils a "behind the scenes" look into the occupation. It is valuable for supplementing classroom and shop study.

Ericson says of visits to industries: (30:181)

Well-organized visits to industrial plants, buildings under construction, drafting rooms, and other places where the world's work is being done, are valuable in broadening the student's views of occupations and their possibilities, as well as in learning related and scientific facts. Next to the actual participation in the occupation, this method is probably the most effective for obtaining a fairly true picture of the work of an occupation and the condition under which the work is done.

Pupil visits to local occupational activities is the second most common means of presenting occupational information in the industrial-arts department, with almost two-thirds of the department heads using such a method. All of the leaders of industrial arts and the guidance supervisors consider such visits desirable, and two-thirds of the leaders consider them necessary, but only two-thirds of the supervisors of industrial arts consider them desirable.

Community Occupational Survey

The community occupational survey is used for securing occupational information in the community. Another purpose of the survey is to develop better understanding between the school and the community. Miller
states that persons in charge of vocational guidance should be responsible for thorough and frequent surveys of occupational opportunities in the local and surrounding communities. (55:269) Forrester says that a local survey is one of the best methods of revealing the picture of current occupational opportunities in a community. (35:410)

Myers states that only a continuous occupational survey of the community will provide the necessary information on: (1) What training is necessary for success in the occupation? (2) What conditions are necessary in order that this training may be given effectively and economically? (3) Can these conditions best be realized in a tax-supported school, in employment itself, or in a combination of the two? (57:274)

The community occupational survey is apparently considered one of the less important means of giving occupational information. About one-fifth of the department heads use this means, and less than one-half of the leaders consider it desirable, though slightly more of the supervisors indicate that it is desirable.

Study of Employment Trends

Teachers who handle occupational information should be aware of trends of occupational opportunities in broad areas of work on a national, state, county and community basis. Occupational information about a particular
industry or business may be out of date within a year. The importance of the occupation, the nature of the work done in it, the working conditions, preparation needed, opportunities for advancement and demand for workers in the occupation may be completely different after five years. Wars, depressions, booms, and technological discoveries may make marked and sudden changes in the working conditions. Teachers should keep abreast of short-term employment information, and should continually be aware of long-term employment trends.

Shartle discusses long-term employment information as follows: (74:297)

. . . In the post-war period there probably will be a declining need for unskilled manual activity, a growing importance of service occupations, and a growth in the white-collar and professional occupations. Among men he shows the greatest increase has occurred in protective service occupations. He also suggests a decline in relative importance of all manual activity outside of the service fields. The manual activity includes craftsmen, foremen, operatives, and laborers, except farm and mine.

The study of employment trends is also one of the less common means of presenting occupational information, with about one-fourth of the department heads including it in their program and little more than one-half of the leaders and supervisors considering it desirable.

**Guest Speakers Discussing Occupational Fields**

The use of guest speakers representing the various
occupations is sometimes helpful. It is usually stimulating to the pupil, and may help him to become acquainted with the human factor in the occupation under discussion. However, there are possible disadvantages to this method of presenting occupational information, and these should be carefully considered. Ericson discusses this as follows: (30:181)

A series of talks by outstanding men in the field of occupations under consideration has been resorted to in various schools. This type of approach creates interest among students, particularly until it becomes commonplace.

Myers emphasizes the same points, adding: (57:116)

This works best when only pupils interested in the occupation discussed are present. Some schools feature conferences of this sort between representatives of occupations and groups of pupils interested in the same occupation.

Fewer than one-third of the department heads use guest speakers to present occupational information, but a large majority of the leaders and supervisors indicate that the use of guest speakers is desirable.

Study of Entry Occupations

Entry occupations are those in which a person without previous work experience may obtain employment. In the counseling of students lacking work experience, it is helpful for the teacher to know the kinds of work which beginners can enter.
Shartle discusses entry occupations as follows: (74:189)

Entry occupations generally are much simpler than occupations which require previous experience. When one compares job analysis reports he soon finds that the entry jobs fall below the others in terms of education required, length of training time on the job and other factors which indicate job complexity.

The pupil must know many important facts about the entry occupation. He must know something of the other occupations to which entry occupations lead, and he should relate the entry occupations to various fields of work.

The study of entry occupations is next to the least common means of presenting occupational information, only about one-fifth of the department heads using this means. One-half of the leaders and supervisors of industrial arts consider it desirable, but nearly all of the guidance supervisors consider it desirable.

Emphasis on Occupations Considered by Pupils

The industrial-arts department must decide, on the basis of school organization, types of pupils in the shop, and local occupational opportunities, just how much occupational information he is to include in his curriculum, and whether the information is to be general or specific. Roberts expresses the problem as follows: (66:101)

It has not been possible to set up a program which will allow the student to explore and to experience something about each of the large number of occupations. We do not attempt full coverage, but it is possible to give students
guidance in broad families of occupations.

Wilber (88:76) has formulated a list of activities and projects which leads from discussion of broad occupational families related to experience areas explored in the shop to individual research into occupations selected as of particular interest by the individual pupil. This is, perhaps, the most practical plan in the ordinary industrial-arts department.

More than two-fifths of the department heads indicate that they place emphasis on the occupations being considered by the pupils in giving occupational information. A majority of the leaders and supervisors of industrial arts, and all of the guidance supervisors consider this plan desirable.

**Instructions on Sources of Occupational Information**

It is seldom possible to satisfy all pupils with the types of occupational information they are seeking, or to predict what types of occupational information may be useful to them in the future. It is possible that a time of future need will find them unable to contact school or counseling authorities when they must have occupational information. For this reason, it may be wise to give the pupil instructions on how to obtain occupational information. Forrester names some of the government agencies which supply such information on request: (35:89) Occupational
Information and Guidance Service, U. S. Dept. of Education; Bureau of Employment Security; Occupational Analysis Section of the U. S. Employment Service; Occupational Outlook Service, Department of Labor; National Resources Planning Board; and Civil Service Agencies.

Slightly more than one-third of the department heads give instruction on the sources of occupational information, and a little more than one-half of the leaders and supervisors consider such instruction desirable.

Methods of Preparing Job Analyses

The job analysis is a method of obtaining the pertinent facts about jobs. It is the basic method of obtaining occupational information. It is not concerned with the workers employed in the job, but involves observing the duties of jobs, obtaining facts about the qualifications required, and other data about the job.

Shartle says that the content and scope of a job analysis program depend upon the uses which are to be made of the occupational information obtained from such analyses. He lists twenty specific items which should be included. (74:15)

Less than one-fourth of the department heads include methods of preparing job analyses in their programs of occupational information, and it is considered one of the least desirable means by the leaders and supervisors.
Instructions on Use of Job Analyses

The job analysis must be placed in usable form for the use of the interested pupil. It is among the most valuable types of occupational information for the pupil interested in a specific job, and is particularly valuable because it is taken from original sources rather than from textbooks, pamphlets, or other secondary sources. A complete job analysis contains so much information about a variety of related subjects that the interviewer, teacher or pupil using it must classify the information and prepare it for easy use. There are standard forms available for systematically arranging the items, or the teacher may devise his own forms.

Instructions on the use of the job analysis and methods of preparing the job analysis are rated almost equally by all groups represented in the tables, none of whom considered such instruction an important means of presenting occupational information in the industrial-arts department.

Shop Clubs to Study Careers

Shop clubs for career-study differ from home-room groups in that the selection of membership is usually on the basis of individual interests. They are cocurricular groups organized to provide occupational information.
Erickson suggests that these clubs can be organized around community citizens and can meet in the homes of these interested adults. (27:106)

The career club sponsored by the school shop has definite value. It is composed of pupils motivated by interest; it is usually a small group, which facilitates the making of trips to related industry and the provision of specialized shop experiences. It may cover an occupational family, or group of related occupations, or it may cover an industry, such as the fast-growing plastics industry.

Suggested activities possible for a shop club studying careers are: (1) Visits to industry. (2) Guest speakers. (3) Motion pictures dealing with the industry. (4) Acquisition of occupational information. (5) Pupils may prepare and deliver reports on phases of career. (6) Pupils may interview leaders in the occupational field.

The tables indicate that this is the method least often used to present occupational information in the industrial-arts department. Only about one-tenth of the department heads use shop clubs for career study, although most of the leaders of industrial arts and guidance supervisors, and one-half of the industrial-arts supervisors consider them desirable. Almost one-half of the leaders indicate that they are necessary.
In many occupations, training takes place after employment begins. In others, preparation is made in the school or under school supervision before employment. In some occupations, specialized training on a higher level, such as the sciences or professions, must take place before entrance into the occupation. The pupil's vocational success depends upon the quality and completeness of his preparation as well as upon suitable choice of an occupation, says Myers. (57:267)

When the pupil has been assisted to choose his work by means of information course, tryout experience, and individual counseling, he must be helped to plan his preparation. Modern industry and business are inadequately organized to provide vocational preparation. Some large industries have developed training programs for learners, but this training is often very limited. Various means of vocational training have been tried in this country. The pupil may benefit from the knowledge of vocational preparation opportunities available through correspondence courses, diversified occupations programs, supervised apprenticeship, the part-time school, evening vocational classes, on-the-job training, vocational schools, and trade schools beyond the high school level.

The department heads appear to consider this
information among the most important of the items included in occupational information. More than one-half indicated that they include such information in their shop programs, and nearly all of the leaders and supervisors consider it desirable, while one-half of the leaders consider it necessary.

**Rating Personality from the Employer's Viewpoint**

The school should inform the pupil of reasons for lack of success in any occupation or industry. Several years ago the Carnegie Foundation reported, on the basis of their study of 10,000 men, that technical training is responsible for only 15 per cent in the success of an individual in the business world, while personal qualities are responsible for the remaining 85 per cent. (35:286)

Forrester states about the importance of personality: (35:286)

Commenting on these facts, practically all industrial personnel leaders agree that few people fail to merit promotion because of lack of specific skills or native intelligence. Employees fail to advance because of character traits such as laziness, tardiness, slovenliness, inability to get along with others, and lack of initiative. They are unwilling to assume responsibility, to exercise care, to cooperate, or to measure up to the requirements of business behavior. None of these qualities depends on inherent ability. All of them could be corrected if the employee tried to do so. Almost anyone can improve the personality and character traits which are his liabilities if he will make the effort to analyze his weaknesses, discover what they are, and
endeavor to overcome them. But first he must be convinced that such shortcomings as poor self-control, discourtesy, dishonesty, and lack of dependability must be conquered if one is to advance to fields of wider endeavor.

About one-third of the department heads endeavor to assist the pupil in rating his personality from the employer's viewpoint, and only one-third of the leaders and supervisors of industrial arts consider this desirable, but nearly all of the guidance supervisors indicate that this rating of personality is desirable.

Is Your Occupational Information Limited to Those Experience Areas Explored in the Shop

The amount of occupational information to be supplied by the industrial-arts teacher may be determined in a number of ways. Ericson states that (30:179) instructors of shop subjects are in a unique position for assisting youth in learning about a large field of occupations. One of the principal objectives for the work in secondary schools is the opportunity to explore mechanical occupations. He also states that the need for covering the broad field of allied occupations is evident when we consider the fact that one shop activity may represent ten or more distinct trades.

Myers says that the industrial-arts course helps the pupil to discover whether he has aptitudes or limitations along mechanical lines in general and along the lines of
specific occupations represented in the school shops. (58:56)

He also says that: (58:56)

No one connected with the school should know as much about the opportunities and requirements of the few occupations closely related to the work of his shops as the teacher in charge of these shops.

Again in the case of the extent of occupational information presented by the industrial-arts department, the decision will have to be made on the basis of local school organization, types of pupils, qualifications of the teacher, and local occupational opportunities.

The tables reveal that only one-third of the department heads limit their occupational information to the experience areas explored in their shops, and almost none of the leaders and supervisors consider it desirable for them to so limit their occupational information.

Summary of the Role of the Industrial-Arts Department in the Presentation of Occupational Information

Literature dealing with industrial arts indicates that the industrial-arts instructor has the responsibility of imparting occupational information regarding the work fields represented by his subject, in addition to technical and foundational knowledge. This occupational and vocational information, in order to be effective, must be made a part of the course of study, and taught by a teacher who knows his subject and recognizes its importance. Teachers should be familiar with occupational families represented in their departments.
The tables which display the reaction of the four groups to the presentation of occupational information indicate that the industrial-arts department heads are not fully aware of their opportunities and responsibilities in this field. Fewer than two-thirds of them use film strips and motion pictures of occupations and pupil visits to local occupational activities as a means of presenting occupational information, and about one-half give information on opportunities for vocational training. Less than one-half use any of the other means included in the program of presenting occupational information, and few indicate that they supply information concerning the pupil's participation in this program to other school departments or to the school's individual inventory.

A large majority of leaders and supervisors agree on the desirability of giving information on opportunities for vocational training, using film strips and motion pictures of occupations, taking pupils for visits to local occupational activities, use of guest speakers, and having an adequate selection of occupational books. Many of the leaders also considered these necessary.

The Role of the Industrial-Arts Department in the Presentation of Educational Information

The pupil needs to be informed of the educational opportunities open to him. He must know what the secondary
school can offer to him, both in the present and in the future. He must have assistance in planning his curriculum to carry out his educational and vocational plans, and he must know the curricular and cocurricular provisions for his social development. If he is capable of advanced professional or technical training, he must be shown the ways in which such education may be possible. If he intends to follow his secondary education with a college education or special vocational training in technical or trade schools, he must be assisted to choose the educational institution best fitted for his needs. If he intends to continue his vocational preparation by means of apprenticeship or on-the-job training, he should be informed of the means of doing so. The secondary school pupil has not had the opportunity to acquire a thorough knowledge of educational opportunities open to him, and often his parents are unable to supply him with objective information about his needs and the proper institution to answer his needs. The school must assist him in making his immediate and long-term educational plans. Each teacher has a share in the responsibility for helping the pupil.

The industrial-arts teacher has opportunities to know his pupils intimately. He knows their aptitudes and capabilities. In addition, he sometimes has personal knowledge of technical and trade schools and of colleges,
and knows the opportunities for training in industry. He may be of assistance in helping the pupil to make his plans for the future.

Dunsmoor and Miller define adequate assistance to the pupil in providing educational information as follows: (25:72)

To provide adequate assistance to students in this important matter, it is essential that the person or persons who do it shall be aware (1) of the content and requirements of the courses and curricula offered in the school, (2) of the many requirements for the school and state diplomas, (3) of the training necessary for entrance into the student's chosen field of work, (4) of entrance requirements to be met at, and educational opportunities offered by, universities, colleges, and other institutions of advanced training, and (5) of each student's interests, abilities and limitations.

The tables on the following pages indicate the reaction of the four groups included in the study to the question: Does your shop program provide for presenting the following information? Does your department supply this information to other school departments? Is the Information incorporated in the school's inventory of the individual pupil?

Table 33 deals with the response of the heads of industrial-arts departments to the question. Tables 34, 35 and 36 display the reaction of the leaders of industrial arts, the supervisors of industrial arts, and the supervisors of guidance services, respectively.
TABLE 33
REACTION OF 602 INDUSTRIAL-ARTS DEPARTMENT HEADS ON PROVISION OF EDUCATIONAL INFORMATION

<table>
<thead>
<tr>
<th>Items of Educational Information Provided</th>
<th>Percentage of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Industrial Arts Dept.</td>
</tr>
<tr>
<td>a. Information about curricular offerings in school</td>
<td>47</td>
</tr>
<tr>
<td>b. Information of co-curricular offerings in school</td>
<td>35</td>
</tr>
<tr>
<td>c. Scholarships and their requirements</td>
<td>33</td>
</tr>
<tr>
<td>d. Entrance requirements to colleges</td>
<td>44</td>
</tr>
<tr>
<td>e. Entrance requirements to technical or trade schools</td>
<td>49</td>
</tr>
<tr>
<td>f. Entrance requirements for apprenticeship training</td>
<td>46</td>
</tr>
</tbody>
</table>

TABLE 34
REACTION OF TEN LEADERS IN INDUSTRIAL ARTS ON PROVISION OF EDUCATIONAL INFORMATION

<table>
<thead>
<tr>
<th>Items of Educational Information Provided</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Information about curricular offerings in school</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>b. Information about co-curricular offerings in school</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>c. Scholarships and their requirements</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>d. Entrance requirements to colleges</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>e. Entrance requirements to technical or trade schools</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>f. Entrance requirements for apprenticeship training</td>
<td>9</td>
<td>4</td>
</tr>
</tbody>
</table>
TABLE 35
REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS ON PROVISION OF EDUCATIONAL INFORMATION

<table>
<thead>
<tr>
<th>Items of Educational Information Provided</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Information about curricular offerings in school</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>b. Information of co-curricular offerings in school</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>c. Scholarships and their requirements</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>d. Entrance requirements to colleges</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>e. Entrance requirements to technical or trade schools</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>f. Entrance requirements for apprenticeship training</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

TABLE 36
REACTION OF NINE STATE SUPERVISORS OF GUIDANCE ON THE PROVISION OF EDUCATIONAL INFORMATION

<table>
<thead>
<tr>
<th>Items of Educational Information Provided</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Information about curricular offerings in school</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>b. Information about co-curricular offerings in school</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>c. Scholarships and their requirements</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>d. Entrance requirements to colleges</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>e. Entrance requirements to technical or trade schools</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>f. Entrance requirements for apprenticeship training</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

Information about Curricular Offerings in School

Pupils must make choices of careers, and they must base those choices on accurate information. The pupil must know the purposes and aims of his education before he can plan
wisely. Today, since industry does not readily make a place for the young boy, he should be encouraged to stay in high school until he graduates. In order that he may receive the maximum value from his high school curriculum, he should be assisted to plan it carefully, taking into consideration his own abilities, limitations, interests, and future plans. He needs certain fundamental information about the requirements of his school and his state. He must know the following, say Dunsmoor and Miller: (25:75)

1. The nature of all the various courses and curricula; for whom they are adapted; and the requirements concerning any and all of them.

2. The requirements for graduation from high school. This includes possible combinations of credits.

3. A knowledge of the training requirements of the fields of work in which students are interested.

If the pupil does not plan to complete high school, it is still more important that he plan his curriculum with great care for the remainder of the period he expects to remain in school in order to obtain the greatest possible value from his high school experience.

Almost one-half of the department heads include information about the curricular offerings of the school in their informational programs, and slightly more than two-thirds of the leaders and supervisors consider it desirable.
Information about Co-Curricular Offerings in School

The co-curricular offerings of the school were once considered additions to the school program—leisure time rewards for the pupil who excelled at scholastic tasks. Today such activities are becoming integral parts of the program of studies. The school program is so organized that pupils are encouraged to consider the values derived from co-curricular activities almost as valuable as the regular curriculum.

The usual co-curricular activities furnish an organized environment which supplements the regular curricular program. It usually consists of clubs, athletics, publications, homeroom organization, dramatics, honorary societies, assemblies, musical organizations, career clubs, and student council. Dunsmoor and Miller consider such activities a part of a balanced education. (25:78)

Germane and Germane consider co-curricular activities an excellent means for helping pupils to overcome adjustment patterns inimical to their present and future success. They say: (37:411)

Socialization in its broadest sense is possibly the greatest need of youth. The number of opportunities for a student to develop courage and social competence in all the areas of human relationships is almost legion in a comprehensive and well-administered program of proved and tested extra-curricular activities.
Information about the co-curricular activities is apparently not considered too important by the department heads, only one-third of whom provide this information. One-half of the leaders and two-thirds of the supervisors consider it desirable. The term "co-curricular" may have been misleading in the questionnaire, since some of the returns indicated lack of understanding.

Scholarships and Their Requirements

Nearly every pupil who plans to finish high school and attend a college or technical school will be interested in the possibilities of financial assistance through scholarships. It is impossible to have on file information about all of these opportunities because of their extent and variety, but the teacher may attempt to build a reference shelf for the pupil's information. The United States Office of Education and some state departments of education issue, from time to time, bulletins such as "Scholarships and Fellowships at Institutions of Higher Learning". These may form the nucleus of the informational service discussed by Reed: (64:234)

It is amazing how many scholarships and fellowships there are, and by how many agencies they are offered... . Some of the opportunities are available annually, some are temporary; and educators charged with the conduct of courses which require such data will need to be very alert lest they overlook opportunities which might further the educational ambitions of worthy students.
Information about scholarships is apparently considered least valuable of the items of educational information provided for industrial-arts pupils. Only one-third of the department heads provide such information, and slightly more than one-half of the leaders and supervisors consider it desirable.

Entrance Requirements to Colleges

About one pupil out of every five graduating from high school plans to enter college. (25:76) Of that number, only one out of every four will graduate. It is necessary to assist those pupils who plan to enter college. They must be informed as to the entrance requirements for their chosen colleges, assisted to meet those entrance requirements, and prepared to adjust adequately to college life. In the case of those pupils who wish to enter college, but lack the degree of scholastic ability requisite for success, it many times is possible to direct them to junior college or to other institutions with less rigid entrance requirements.

Dunsmoor and Miller discuss the problem of planning for college as follows: (25:76)

The student should start early in his high school career to plan for college. He must expect to do consistently good work and to rank if possible in the upper fifty of his graduating class. He must learn the entrance requirements of one or more colleges to which he proposes to make application for admission, in order that he
may be sure to meet them fully by planning his work to that end...

Students should also be given information regarding the opportunities presented by junior colleges, since many students who have ambitions to attend college will do much better to spend a year or two in a junior college and terminate their higher education at this point.

In the provision of information about scholarships, the tables do not indicate that it is considered highly important. Less than one-half of the department heads supply this information, and a bare majority of the leaders and supervisors consider it desirable.

**Entrance Requirements to Technical or Trade Schools**

The pupil who has no wish for a college education but wishes advanced education beyond the secondary level will often be interested in the technical or trade school. The pupil should have access to information about the entrance requirements to such schools, so that he may qualify himself for entrance while he is in high school.

These special schools offer courses ranging from six months to three years in length, in most cases. They are usually vocational, and are not considered as junior colleges or colleges. They prepare the pupil for vocational proficiency.

Care must be exercised in choosing or recommending such schools, because many states do not have regulations or standards governing them. There is a wide range in
the quality of work offered. The teacher should obtain reliable information about these schools. Reed lists sources of information about such institutions which should be included in the information file of the teacher.

A majority of the states furnish some information on educational opportunities for youth. The two most helpful types of information which come specially under their jurisdiction are bulletins which describe educational opportunities offered in state-supported institutions and annual lists of private business and other trade or vocational schools which advertise to prepare youth for wage-earning occupations.

The provision of information about entrance requirements to technical and trade schools is considered the most important of the items of educational information listed, according to the tables, although slightly less than one-half of the departments provide this. Nearly all of the leaders and supervisors consider it desirable.

Entrance Requirements for Apprenticeship Training

Apprenticeable trades are found in every division of the trade and industrial field, including the building trades, metal trades, food trades, garment trades, printing trades, watch-making and jewelry trades, aviation, construction, electrical, textile, shipbuilding, railroad, steel, and other industries. (49:29) According the Encyclopedia of Vocational Guidance, the term "apprentice"
shall mean a person at least 16 years of age who is covered by a written agreement registered with a state Apprenticeship Council providing for not less than 4,000 hours of reasonably continuous employment for such person, and for his participation in approved schedules of work experience through employment, which should be supplemented by 144 hours per year of related classroom instruction.

The Encyclopedia of Vocational Guidance (49:31) offers the following information about entrance into apprenticeship:

The manner of entrance into apprenticeship will differ as much as entrance must be made in accordance with the personnel practices of the trade, the industry, the plant, or the corporation in which apprenticeship is sought.

The local trade or plant written apprenticeship program specifies the way in which applicants will be selected and employed. Usually, there are more applicants for employment as apprentices than there are openings to be filled. First opportunities are in many instances offered the sons and daughters of workers in the particular industry providing they can meet the standards established for entrance into the trade as apprentices.

Information about apprenticeship is apparently considered one of the more desirable items of educational information by the department heads, although less than one-half indicate that they supply this information. Nearly all of the leaders and supervisors consider it desirable, and almost one-half of the leaders say that it is necessary.
Summary of the Role of the Industrial-Arts Department in the Presentation of Educational Information

A study of the literature indicates that the pupil has need of information about the curricular and co-curricular offerings of his school and of the entrance requirements for further education or training, as well as opportunities for financial assistance by means of scholarships. The industrial-arts teacher has opportunities to learn the aptitudes and capacities of his pupils, and may have knowledge of technical and trade schools and of opportunities for training in industry. He may sometimes be of assistance to the pupil in formulating his educational plans.

The tables reveal that the heads of industrial-arts departments apparently do not consider the provision of educational information an important part of their programs. Less than one-half provide any of the listed items of educational information to their pupils, and only about one-third provide information about co-curricular activities and scholarships.

The leaders and supervisors considered that the most important information for the industrial-arts teacher to provide was information about entrance requirements to technical or trade schools, and entrance requirements for apprenticeship. Almost one-half of the leaders considered this information necessary.
The Role of the Industrial-Arts Department in the Presentation of Information about Courses and Training Procedures in Post-Secondary School Education

The teacher who assumes a share of the duty of providing educational information to the pupil has a responsibility beyond preparing him to meet the entrance requirements of any institution for advanced education or training. Too often the ideas of the pupil are idealized versions of education and occupation as drawn from books and moving pictures. Few pupils preparing for further training have any idea of the extent of the arduous training before them, or the types of courses and preparation which are needed to equip them to go forward in their chosen vocations. The teacher must assist the pupil to substitute factual knowledge of the courses and training procedures necessary for entrance into any occupational field in the place of the unrealistic ideas which may have been the basis for his occupational choice. (90:15)

Williamson says that the pupils planning to go to college should be advised of the difficulties of the task before them. He continues: (90:10)

It is not at all easy to survive the rigorous competition of college classes and to meet the exacting standards of scholarship set by college teachers. Freshmen should expect and prepare for difficulty in making a shift from high school to college.
College work proceeds at a much more rapid pace; the amount of textbook material covered is greater. On the average the college student studies between twenty and thirty hours a week, preparing for classes, lectures, and quizzes. Examinations and quizzes are much more frequent and more difficult. Very frequently a college freshman does not fully understand that he has undertaken serious, professional, adult training and that his days of getting by in studies are past.

In the same manner, the pupil who must make a choice of the type of post-secondary school which will best meet his needs should be informed of the types of courses and the standards of achievement of the business and commercial schools, the trade and technical schools, continuation schools, correspondence and extension courses, apprenticeship, and the opportunities for training offered by the military services.

The following tables show the response of the four groups included in the study to the question: Does your shop program provide for information about courses and training procedures in the following? Does your department supply this information to other school departments? Is the information incorporated in the school's individual inventory?

Table 37 includes the responses of the heads of industrial-arts departments to the question. Tables 38, 39 and 40 contain the responses of the leaders of industrial arts, the state supervisors of industrial arts, and the guidance supervisors, respectively.
TABLE 37
REACTION OF 602 INDUSTRIAL-ARTS DEPARTMENT HEADS ON PRESENTING INFORMATION ABOUT COURSES AND PROCEDURES IN POST-SECONDARY SCHOOL EDUCATION

<table>
<thead>
<tr>
<th>Institutions for Continued Education</th>
<th>Percentage of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By</td>
</tr>
<tr>
<td>a. Colleges</td>
<td>35</td>
</tr>
<tr>
<td>b. Business colleges and commercial schools</td>
<td>13</td>
</tr>
<tr>
<td>c. Trade and technical school</td>
<td>45</td>
</tr>
<tr>
<td>d. Evening school</td>
<td>23</td>
</tr>
<tr>
<td>e. Correspondence courses</td>
<td>16</td>
</tr>
<tr>
<td>f. Military services</td>
<td>22</td>
</tr>
<tr>
<td>g. Apprenticeship</td>
<td>37</td>
</tr>
</tbody>
</table>

TABLE 38
REACTION OF TEN LEADERS IN INDUSTRIAL ARTS ON PRESENTING INFORMATION ABOUT COURSES AND PROCEDURES IN POST-SECONDARY SCHOOL EDUCATION

<table>
<thead>
<tr>
<th>Institutions for Continued Education</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Colleges</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>b. Business colleges and commercial schools</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>c. Trade and technical schools</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>d. Evening school</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>e. Correspondence courses</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>f. Military services</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>g. Apprenticeship</td>
<td>8</td>
<td>2</td>
</tr>
</tbody>
</table>

Colleges

The need for information about courses and offerings in college is emphasized by Jones, who says: (47:249)
TABLE 39
REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS ON PRESENTING INFORMATION ABOUT COURSES AND PROCEDURES IN POST-SECONDARY SCHOOL EDUCATION

<table>
<thead>
<tr>
<th>Institutions for Continued Education</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Colleges</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>b. Business colleges and commercial schools</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>c. Trade and technical schools</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>d. Evening school</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>e. Correspondence schools</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>f. Military services</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>g. Apprenticeship</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

TABLE 40
REACTION OF NINE STATE SUPERVISORS OF GUIDANCE ON PRESENTING INFORMATION ABOUT COURSES AND PROCEDURES IN POST-SECONDARY SCHOOL EDUCATION

<table>
<thead>
<tr>
<th>Institutions for Continued Education</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Colleges</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>b. Business colleges and commercial schools</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>c. Trade and technical schools</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>d. Evening school</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>e. Correspondence courses</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>f. Military services</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>g. Apprenticeship</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>

"One of the most important tasks of the senior high school is to secure important facts about colleges and to organize them in such a way that they can readily and easily be used".

It is not expected that high schools should have
on hand exact information regarding all phases of advanced education in every institution, but it is possible for any school needing specific information to secure college catalogues and other material describing the college and its facilities.

Williamson presents the following picture of the college offerings: (90:6)

Perhaps last in importance is that value of college education which lies directly in technical and specific training for a vocation or profession, that is, occupational training. It is necessary to understand that colleges, for the most part, do not provide narrow and routine training for job placement. Colleges still assume that their graduates, for the most part, will enter professional occupations, and therefore, that they will need to have a very broad, general background of theory and culture plus technical and specific skill and knowledge... This general education may cover one or more years of his college course and may precede or run parallel to his professional and technical training.

A majority of the department heads apparently do not consider providing information about courses and training procedures in college their responsibility. Slightly more than one-third provide this information, and less than one-half of the leaders and supervisors consider it desirable in the industrial-arts department.

**Business Colleges and Commercial Schools**

It is impossible to describe in detail each specialized business occupation for which special training
is required. Williamson classifies the business functions or occupations under seven headings, as follows: (90:234)
(a) executive and managerial, (b) personnel, (c) purchasing, (d) finance, (e) clerical and secretarial, (f) sales and advertising, and (g) professional—including legal, industrial engineering, accounting and statistical services.

In business occupations, the greatest number of workers are engaged in sub-professional and sub-executive types of jobs. The number of the so-called "higher" jobs is very small and open only to students with correspondingly high ability and to those who are able to acquire professional training both difficult in nature and long in years. For all other students the greatest opportunity for success and satisfaction is to be found in jobs which require less ability and shorter and less difficult training. For this latter type of job, professional training in college is not necessary. (90:231)

The tables indicate that information about business colleges and commercial schools is considered of slight value in the industrial-arts department. Only about one-eighth of the department heads supply this information, and less than one-half of the leaders and supervisors consider it desirable. Business colleges received a smaller response than did any other institution.
Trade and Technical Schools

There is a demand for intelligence and responsibility in addition to a high degree of technical skill and knowledge on the part of the skilled worker in industry. These skilled workers form the aristocracy of labor. There has been a constant oversupply of trained workers in the organized trades, which has led to increasingly strict standards of admission in the trade and technical schools, accompanied by high standards of achievement during training. The pupil cannot be directed toward a trade school because he lacks scholastic aptitude. Cox and Duff make the following statement about the qualifications for success in the trade school: (14:465)

There is generally a far greater number of candidates for admission to trade schools than the capacity of the schools or the number of jobs available for graduates justifies the school in admitting. Students who enter full-time vocational schools are, therefore, generally a select lot, though sometimes the vases of selection may be unintelligent or undesirable. Academic standing, "general" intelligence, and occasionally aptitude and competence tests are used; physical examinations are customary.

All of the groups represented in the tables agree that information about courses and training procedures in trade and technical schools is the most valuable of the institutions included in the question, though less than one-half of the department heads supply such information.
Evening School

Evening schools are expected to perform varying functions in different localities. The advice which can be given to the pupil about the educational opportunities of the evening school will be governed by conditions existing in his locality. In some areas, it exists to serve those pupils who require a high-school diploma in order to take a job or merit promotion. In other areas, it exists for promoting technical skills, and is considered vocational, while in many sections, its function is purely cultural and avocational. The early-leaver from the secondary school should be advised of the opportunities which exist for continuing his education in evening schools.

Myers finds that late trends in evening schools meet a definite need. He says: (57:285)

Evening schools will not be unaware of their responsibility of providing vocational extension education for adult workers of all ages. In performing this function they will add new courses from time to time to meet new needs arising from development of new industries, as has been done recently in air-conditioning. The new legislation enacted from time to time affecting agriculture, industry, and business places new responsibilities on evening schools.

Less than one-fourth of the department heads give information about courses offered in evening school, though a slight majority of leaders of industrial arts
and guidance supervisors consider such information desirable.

**Correspondence Courses**

Correspondence courses are a valuable means of obtaining almost any type of education, but there are certain difficulties about which anyone contemplating such a course of instruction should be advised. There is a difficulty in correspondence study, combined with a weakness in human nature which makes it difficult to profit by such courses. The teacher or adviser should present these factors to the pupil, and help him to analyze his own willingness and ability to overcome the difficulties.

Myers discusses a plan of vocational preparation by means of supervised correspondence courses which has proved successful in a number of communities. (57:280) The school assumes the responsibility for the supervision of such courses, thus removing one of the difficulties. Besides offering a possible solution of the small town's difficulty in providing varied vocational preparation, the plan also may be used by larger cities to supplement its usual program by providing preparation for those occupations which appeal to comparatively few pupils.

Less than one-fifth of the department heads provide information about correspondence courses to their pupils,
and few of the leaders and supervisors consider such information desirable, but more than one-half of the guidance supervisors recognize its desirability.

Military Services

In the years since World War II, the armed services have adopted a policy of recruiting young men by emphasizing the opportunities for vocational training which are open to them in different branches of the service. Many boys are attracted to military service because of the appeal to their patriotism, and further influenced by the opportunity to "learn a skilled trade", or gain "the equivalent of a college education". The teacher should be able to advise them on the opportunities open to them in this field. Because of the changing character of such opportunities, the teacher must keep abreast of current information through government bulletins.

Jones discusses some of the educational opportunities in military service as follows: (47:541)

The United States Armed Forces Institute was established in April, 1942, and has had a remarkable development... It was first called the Army Institute and was merely a correspondence school. It has since been expanded and includes all the armed forces. Although the correspondence feature is still continued, a large part of its program is concerned with regular instruction in selected schools and colleges. This preliminary training often brings to light men who are qualified for still more highly specialized training provided in schools operated by the armed forces. The program includes self-teaching
devices and provides material for classes and study groups wherever it is needed. A comprehensive system of accreditation has been worked out by which credit may be received toward graduation from secondary school and college for such work successfully completed.

The presentation of information about educational courses offered by the military services is apparently not considered important by any of the groups. About one-fifth of the department heads offer such information, and less than one-half of the leaders and supervisors consider it desirable.

Apprenticeship

Successful programs of apprentice training are now operating in conjunction with the national program and operating independently within plants or industries. The same basic standards govern both types of apprenticeship. The pupil who wishes to enter a trade as a skilled worker, and who cannot plan for years of training in special schools should be informed of the opportunities which exist in a well-conducted program of apprenticeship.

Under the apprentice-training plan commonly followed, a definite amount of classroom instruction—usually from four to eight hours a week—is given in general vocational subjects, job technical knowledge, and in auxiliary information related to the trade. Some of the time allotted to related instruction may be devoted to training
the apprentice in jobs in which he is unable to secure training under employment conditions. Supervision of apprentice courses is a service rendered by some schools. The primary purpose is to see that the related instruction is based upon an analysis of the trade and that instruction is given effectively and at the proper time. (49:21)

Information about procedures and courses in apprenticeship is apparently considered second in importance to information about trade and technical schools, though only slightly more than one-third of the department heads present this information. Nearly all of the leaders of industrial arts and guidance supervisors, and one-half of the industrial-arts supervisors consider it desirable.

Summary of the Role of the Industrial-Arts Department in the Presentation of Information about Courses and Training Procedures in Post-Secondary School Education

A study of the literature concerned with educational information reveals that few pupils preparing for further training have any idea of the extent of the arduous training before them, or the types of courses and preparation which are needed to equip them to go forward in their chosen vocations. The teacher may assist the pupil in substituting factual knowledge of the courses
and procedures necessary for entrance into any occupational field in the place of the dreams which may have been the basis for his occupational choice.

Responses from the four groups who answered the questionnaire indicate that information about courses and procedures in post-secondary school education is not considered an important part of the industrial-arts program by most members of the groups. More than one-third of the department heads give information about trade and technical schools, colleges, and apprenticeship. A majority of leaders of industrial arts and guidance supervisors, and one-half of the industrial-arts supervisors consider information about courses and procedures in trade and technical schools and apprenticeship desirable.

Role of the Industrial-Arts Department in the Provision of Placement Techniques

The question of the industrial-arts department's responsibility for pupil placement and its function in any organized school placement program touches on a subject of controversy. It may be said that such responsibilities or functions vary according to the locality. Myers discusses the relationship of the industrial-arts department to the provision for aiding youth to enter occupational life advantageously upon completion of whatever special preparation is obtained. He states:
Here again, in this matter of placement, the responsibility of the industrial-arts teacher may well be limited to those occupations closely related to the work of his department. In fact, in city-school systems that maintain well-organized central placement offices, serving pupils leaving all public secondary schools in the city, it is questionable whether the industrial-arts teacher should attempt to do any placement of his pupils directly. He should, of course, cooperate with the placement office. In cities where no central placement service is provided, he will have an opportunity to do valuable work of this character. If, however, his placement work is to be more than mere job-finding, he will find it necessary to become well-acquainted with employment officers in those industrial establishments where he hopes to place young workers, and to keep closely in touch with their requirements for such workers.

Since the school, in many cases, assumes responsibility for pupil placement for the first position after leaving school, and accepts a diminishing responsibility from that time onward, it has sometimes proved helpful to teach the pupil certain placement techniques. He is thereby assisted to obtain employment for himself, rather than returning to the school placement office for assistance. He should know how to answer want-ads, write letters of application, fill out application blanks, how to state his qualifications completely and correctly, so that the employer can harmonize job-requirements with employee-qualifications. He should know the uses of public and private placement agencies, the comparative advantages of each, and how to use such agencies to his own advantage. Above all, he must know a great deal
about the maintenance of a proper employer-employee relationship.

The following tables reveal the reaction of the four groups to the question: Does your shop program provide the following placement techniques? Does your department supply this information to other school departments? Is the information incorporated in the school's individual inventory.

Table 41 deals with the responses of the industrial-arts department heads. Tables 42, 43 and 44 contain the reaction of the leaders of industrial arts, state supervisors of industrial arts, and state guidance supervisors, respectively, showing which placement techniques they consider it desirable for the industrial-arts department to provide, and which they consider necessary.

How to Answer Want-Ads

The pupil seeking employment will learn that the want advertisements in the daily newspaper are good avenues of approach. The blind advertisement, revealing the requirements for the position only in general terms, calls for a brief statement of the essential facts about the pupil—age, nationality, extent of education and experience, and any facts that may be in the applicant's favor. The complete advertisement should be answered
TABLE 41
REACTION OF 602 HEADS OF INDUSTRIAL-ARTS DEPARTMENTS ON PROVISION OF PLACEMENT TECHNIQUES

<table>
<thead>
<tr>
<th>Placement Techniques</th>
<th>Percentage of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Industrial Arts Depts.</td>
</tr>
<tr>
<td>a. How to answer want-ads</td>
<td>7</td>
</tr>
<tr>
<td>b. How to write letters of application</td>
<td>10</td>
</tr>
<tr>
<td>c. How to fill out application blanks</td>
<td>13</td>
</tr>
<tr>
<td>d. How to conduct self during interview with prospective employer</td>
<td>20</td>
</tr>
<tr>
<td>e. How to state qualifications for employment</td>
<td>18</td>
</tr>
<tr>
<td>f. Uses of state employment services in job-hunting</td>
<td>15</td>
</tr>
<tr>
<td>g. How to register with placement agencies</td>
<td>11</td>
</tr>
<tr>
<td>h. How to maintain employer-employee relationship</td>
<td>26</td>
</tr>
</tbody>
</table>

TABLE 42
REACTION OF TEN LEADERS IN INDUSTRIAL ARTS ON PROVISION OF PLACEMENT TECHNIQUES

<table>
<thead>
<tr>
<th>Placement Techniques</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. How to answer want-ads</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>b. How to write letters of application</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>c. How to fill out application blanks</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>d. How to conduct self during interview with prospective employer</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>e. How to state qualifications for employment</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>f. Uses of state employment services in job-hunting</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>g. How to register with placement agencies</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>h. How to maintain employer-employee relationship</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>
### TABLE 43

**REACTION OF TEN STATE SUPERVISORS OF INDUSTRIAL ARTS ON PROVISION OF PLACEMENT TECHNIQUES**

<table>
<thead>
<tr>
<th>Placement Techniques</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. How to answer want-ads</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>b. How to write letters of application</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>c. How to fill out application blanks</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>d. How to conduct self during interview with prospective employer</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>e. How to state qualifications for employment</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>f. Uses of state employment service in job-hunting</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>g. How to register with placement agencies</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>h. How to maintain proper employer-employee relationship</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

### TABLE 44

**REACTION OF NINE STATE SUPERVISORS OF GUIDANCE ON PROVISION OF PLACEMENT TECHNIQUES**

<table>
<thead>
<tr>
<th>Placement Techniques</th>
<th>Desirable</th>
<th>Necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. How to answer want-ads</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>b. How to write letters of application</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>c. How to fill out application blanks</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>d. How to conduct self during interview with prospective employer</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>e. How to state qualifications for employment</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>f. Uses of state employment service in job hunting</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>g. How to register with placement agencies</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>h. How to maintain proper employer-employee relationship</td>
<td>8</td>
<td>1</td>
</tr>
</tbody>
</table>
with a market analysis and an attempt to match his qualifications with the requirements of the employer. In either case, the application in response to the advertisement is very important.

The department heads apparently do not feel that instruction on how to answer want-ads is important in the industrial-arts department, since only about one-sixteenth include this provision. Few leaders or supervisors of industrial arts, but one-half of the guidance supervisors consider this desirable.

How to Write Letters of Application

A study cited by Forrester (35:373) showed that in 1940, 31.4% of the pupils interviewed in a nation-wide study obtained their jobs after leaving high school through personal application to the employer. Thus the letter of application is seen to be an important method of approach in placement. It is a placement technique about which the pupil should be well informed. The industrial-arts teacher may find it helpful to inform the pupil interested in job-seeking of certain essentials of the letter of application.

The letter of application should outline the job-seeker's understanding of the requirements of the position, show how his experience and education fit those requirements, mention personal qualifications, give references,
and make the request for a personal interview. The teacher should help the pupil to understand the implications of fitting his experience and education to the requirements of the position.

Only about one-tenth of the department heads supply information on this placement technique, and one-third of the leaders and supervisors of industrial arts consider it desirable, but two-thirds of the guidance supervisors indicate that it is desirable.

How to Fill Out Application Blanks

The pupil should have not only instruction in filling out application blanks, but intensive practice in filling out different forms of such blanks. The industrial-arts teacher who assumes responsibility for placement of some of his pupils will, normally, be preparing them for entrance into industry. It may be helpful for him to obtain samples of application blanks from various local industries and prepare his pupils to be able to answer all questions adequately. He is in a favorable position to give such help because he uses and understands technical terms used in industry, and will be able to assist the pupils to answer questions with complete understanding of the language used.

Forrester emphasizes the need for practice in
filling out application forms as follows: (35:360)

Personnel and office managers often complain about the inefficient manner in which applicants fill out application forms. They state that schools cannot overemphasize the importance of filling out the forms carefully and completely.

This placement technique also is apparently not considered too important in the industrial-arts department. About one-eighth of the department heads give such help, and less than one-half of the leaders and supervisors of industrial arts and one-half of the guidance supervisors consider it desirable.

**How to Conduct Self During Interview with Prospective Employer**

The interview with the prospective employer, whether arranged through the placement office, by the industrial-arts teacher, or secured by personal application, is the deciding factor in pupil-placement. The pupil cannot have too much emphasis on the importance of the interview, and must realize the importance of his own conduct in the meeting with his prospective employer. The teacher, counselor or friend who best understands the type of employment for which he is applying will be in the best position for helping him. The industrial-arts teacher may be helpful in advising him on the interview when he is seeking employment in industry.

The pupil must bear in mind that sincerity and natural
behavior are necessary in an interview. The pupil should be advised to answer questions frankly and openly, but he must not be coached.

Forrester lists the details which interviewers claim are most commonly overlooked or unheeded by applicants. She names the following: (35:360)

Good grooming, appropriate clothes, a mouth free from gum, a friendly yet dignified approach, a clear voice, a cooperative and courteous manner, a readiness and willingness to discuss his qualifications unhesitatingly, and ability to discuss basic principles of the chosen field of work.

Information on how the pupil should conduct himself during the interview with his prospective employer is considered more valuable than most of the placement techniques provided by the industrial-arts department, but only about one-fifth supply this information. More than two-thirds of the guidance supervisors consider it desirable.

**How to State Qualifications for Employment**

The pupil who is seeking employment must learn to evaluate his personal qualifications in terms of the requirements of the job. He must be able to state his qualifications satisfactorily in the letter of application, the application blank, and the personal interview. He should be advised to study the prospective employer's record, to investigate the company's policies, including its attitude toward the progress of employees and its
interest in their general welfare and development. He must present his abilities and skills, his training and experience record, his leisure-time interests, and any special qualifications which may be suited to the job in question. With these he must present his credentials—documentary records of training and experience, together with recommendations of his abilities and his character. He must include a list of references for the employer's use.

The industrial-arts teacher can be helpful in assisting the pupil to analyze his qualifications from the viewpoint of the employer. Many industrial-arts teachers have had experience in industry, which gives them a realistic approach to the problems and requirements of the occupations in industry.

Less than one-fifth of the department heads indicate that they provide such assistance, and the leaders and supervisors are divided in their opinion, with two-thirds of the guidance supervisors considering this desirable.

**Uses of State Employment Service in Job Hunting**

The advantages of a school placement agency are numerous. The school has a completely unselfish interest in the pupil's adjustment, and a more thorough knowledge of his abilities than an outside agency could obtain.
However, in many communities the school has not assumed the responsibility for placement, or places the former pupil only in his first job. The pupil must often turn to other placement agencies. The best known of these agencies is the State Employment Service. It is to the advantage of the pupil if the State Employment Service and the school placement agency cooperate in placing the job-seeker. Myers discusses this as follows: (57:300)

Authorities who are responsible for developing the policies of the federal-state employment service should recognize that placement of youth to twenty-one years of age, and possibly older, is an educational service. Up to this age their youth-placement program would be wholly one of cooperation with the schools to the end that this educational service may be performed effectively.

Information on the uses of the State Employment Service is also considered among the less important placement techniques in the industrial-arts department, according to the tables. Less than one-sixth of the department heads give this information, and a minority of the leaders and supervisors consider it desirable.

How to Register with Placement Agencies

There are both public and private placement agencies. The public agencies, operated under philanthropic, educational or government jurisdiction, frequently consider counseling a necessary preliminary to placement. The private, or commercial, agencies do not usually offer
counseling interviews except in connection with registration.

Reed discusses the place of the school in registration as follows: (64:312)

If the secondary school clientele is distributed through public placement services, school counselors should assume responsibility for seeing that students report for initial and registration interviews whenever and wherever placement authorities suggest, that any portion of the cumulative record pertinent to placement is transferred in time for use, and that additional information requested is promptly secured and transmitted.

The department heads consider information on how to register with placement agencies among the least of the placement techniques provided by the industrial-arts department. Only about one-tenth supply this information, and the leaders and supervisors apparently do not rate it too important.

How to Maintain Proper Employer-Employee Relationship

A discussion of the proper employer-employee relationship might involve many factors. One of the most important is that the employee shall so conduct himself that both his personal qualities and his work shall fulfill the requirements of his employer. A second important factor is the maintenance by the employer of satisfactory working conditions and wages.

Jones emphasizes that the school has a responsibility
toward insuring the performance and behavior of the employee by teaching the importance of certain points. These are: (47:374)

(1) First day impressions are extremely important; (2) dress suitably; (3) pay close attention to what is told about employer policies and practices; (4) mistakes are inevitable but don't make the same mistake twice, keep learning; (5) get interested in the job, feel that you belong to it; (6) be careful what you say; (7) be on the alert for ways of improving methods; (8) every employer is seeking initiative, fresh ideas, and ability, but learn how to make suggestions tactfully; (9) work hard, don't be an eight-hour-day man.

The maintenance of a proper employer-employee relationship is apparently considered the most important of the placement techniques by the department heads, more than one-fourth of whom include this provision in their programs. Less than one-half of the leaders and supervisors of industrial arts consider this desirable, but nearly all of the guidance supervisors indicate that it is desirable.

Summary of the Role of the Industrial-Arts Department in the Provision of Placement Techniques

Literature dealing with pupil-placement is in agreement on the necessity for supplying the pupil with certain placement techniques. The industrial-arts teacher is not given specific responsibility for providing these techniques. However, the literature indicates that all teachers may assist in presenting information about
placement, provided only that their information is accurate and fills an evident need of the pupils.

The tables reveal that the industrial-arts department heads apparently do not consider that the provision of placement techniques is an important function of their departments. One-fourth present instruction on maintenance of proper employer-employee relationship, with a smaller number supplying the remaining placement techniques.

Few of the leaders and supervisors of industrial arts (not more than one-half in any case), consider provision of any of the placement techniques desirable in the industrial-arts department. On the other hand, more than one-half of the guidance supervisors consider provision of all of the placement techniques desirable.

**Placement in Part-time Work or Other Work Experience Opportunities Outside the School**

The industrial-arts department has based much of its planning on the offering of exploratory or try-out experiences to the pupils. This has been a valuable field of experience, but has often been too slight for the pupil to consider that he understood the requirements and opportunities of the occupation. It has been suggested that part-time work under school supervision, or summer vacation jobs, may supplement the explorations offered by the school shop. Pring, discussing the contributions
of classroom teachers in Erickson's Basic Text for Guidance Workers, has this to say: (29:242)

When a teacher finds a student with a strong vocational interest related to his subject, he may give him valuable exploratory or try-out experiences as opportunities occur at school. Again, he may help the student to obtain real work experience by recommending him for a job on a part-time basis, or one that may be held during the summer vacation. Such experiences will test the capability as well as the interest of the student, and will help him to a decision concerning a vocation.

Jones emphasizes the same point: (47:356)

Another source of try-out and exploration that has been previously mentioned is that of out-of-school jobs and vacation jobs. Not only can the work done by students around the house and in casual jobs be utilized to help the student understand himself, but the counselor can often provide such opportunities for the student. No school shop can exactly duplicate real shop conditions and shop atmosphere. When the boy tackles a real job, he secures real experience. This experience will show him what the trade or industry demands of its workers and will reveal interests and abilities.

Almost one-third of the department heads who answered the question indicated that they supplied placement in part-time work or other work experience opportunities outside the school. One-half of the leaders of industrial arts, and most of the supervisors of industrial arts and guidance consider this a desirable service of the industrial-arts department.

Do You Provide Placement Facilities for Graduates?

The school has in recent years begun to assume the
responsibility for placement of its graduates, either in institutions for advanced education, or in jobs which are suited to their abilities and interests.

In many schools, the responsibility for placement of the graduates rests with the guidance department. In some of the larger city schools there is a separate placement department in the school. In other places, the state employment service is the only local placement agency. However, in the majority of schools over the country, there is no organized provision for the placement of graduates except that which is undertaken by the principal or interested teacher. It is in this group of schools that the industrial-arts department is best equipped to render service.

Myers discusses this as follows: (58:62)

Here again, in this matter of placement, the responsibility of the industrial-arts teacher may well be limited to those occupations closely related to the work of his department... . In cities where no central placement service is provided, he will have an opportunity to do valuable work of this character.

Only about one-fifth of the department heads provide placement facilities for graduates. Less than one-half of the supervisors of industrial arts consider placement of graduates desirable, but a majority of leaders and supervisors of guidance services consider this desirable.
Placement Facilities for Drop-Outs

The "drop-out" or "early-leaver" has been the neglected job-seeker of the United States, ignored by the school which ordinarily places only graduates, and exploited as a ready source of unskilled labor by industry. In recent years some of the more advanced educators have realized that the school has a real and continuing responsibility to the young person who is unable to continue in school either because he is unsuited to scholastic training or because of financial necessity. Many schools have attempted to place him in part-time work or continuation schools so that he can continue his education outside the regular school. Apprenticeship and on-the-job training for qualified and willing persons over sixteen have offered opportunities for advanced training to such pupils. However, more must be done for the drop-out. Brockman and Smith say that such pupils who are undecided about an occupation need assistance in vocational planning and placement. (11:378)

The industrial-arts teacher has often had close contacts with the early-leaver because, in many cases, the pupil who is unsuited for scholastic or academic work has seemed to gravitate to the school shops. The industrial-arts teacher does not prepare the pupil to enter a vocation, but if the pupil is planning to enter industry before
graduation, the teacher knows his mechanical and manual abilities and their possible application in industry. Because of his unique position, he is often well-qualified to advise the pupil in obtaining work, and his recommendation of a pupil is often influential in obtaining manual or unskilled work.

Less than one-tenth of the department heads provide placement facilities for drop-outs, and less than one-half of the leaders and supervisors of industrial-arts consider this desirable, but nearly all of the supervisors of guidance services consider placement of drop-outs by the industrial-arts department desirable.

**Does Your Industrial-Arts Department Make Regular Follow-Up Studies of Graduates?**

National studies do not portray local occupational trends and opportunities. Local job surveys and occupational surveys may fail to supply adequate information to assist the school in evaluating and planning its program. One of the best methods of obtaining information about job opportunities and occupational trends is the use of follow-up studies of former pupils. The well-planned follow-up study can be a valuable aid in planning the school curriculum and the course-content of each department. This follow-up study of graduates may include the pupils who have gone on to college or further training, for their experiences will
also be valuable in making long-range school plans.

Brockman and Smith make the following statement about the value of regular follow-up studies of former pupils:

(11:392)

The descriptions former students give of their work can become the basis of occupational reports, which the school can prepare as a result of the follow-up studies. However, it is important that local information about job trends, opportunities, working conditions, wages, hours of work, and seasonal employment be available to youth so that wise decisions can be made.

Davis says (17:516) that the follow-up begins when the former pupil notifies the office of his success in obtaining a position. Former pupils will be encouraged to come back to school to discuss their problems and give information about local occupational conditions. The employer may also contribute to the follow-up by reporting to the school facts about the employee which may be helpful to the school in preparing future workers.

Slightly more than one-tenth of the department heads make follow-up studies of graduates. Less than one-half of the leaders and supervisors of industrial arts consider such a follow-up desirable, but nearly all of the guidance supervisors indicate that regular follow-up studies of graduates is desirable.

Does Your Industrial-Arts Department Make Regular Follow-Up Studies of Drop-Outs?

Erickson and Smith (28:150) state that the follow-up
program necessary in any school will be determined by the placement activities in which the school engages. Only through a systematic follow-up of all placements can it be determined whether pupils are certain to derive from them the needed experience. They continue: (28:120)

The greatest value of follow-up studies is to be found in the application of techniques of follow-up studies to school-leavers, pupils who have severed connections with the school either before or upon graduation.

Techniques of Follow-Up Study of School Leavers, by Brewster and Zeran, makes no distinction between drop-outs and graduates, apparently assuming that the follow-up of the drop-out is as important in determining the success of the school as the follow-up of the graduate.

For the industrial-arts teacher, the follow-up of the drop-out may be even more significant. The industrial-arts department in the secondary school often draws the pupils who are interested in manual and mechanical activities, and who show an interest in industry. This type of pupil is often uninterested in further academic education, and may seek or take a job in industry when opportunity presents itself.

Jones states: (47:355) "Children leave school at very different times. At least two-thirds never complete high school." In the light of that statement, it is obvious that the follow-up of the drop-out may be even more significant in evaluating the successful pupil
adjustment of the school, and of each department in the school, than the follow-up of the graduate.

Few of the department heads, less than one-twenty-fifth, make follow-up studies of drop-outs, and few of the leaders and supervisors of industrial arts consider this desirable, but nearly all of the guidance supervisors consider follow-up studies of drop-outs a desirable service of the industrial-arts department.

**Does Your Department Provide Counseling Services to Former Pupils?**

The responsibility of the school does not end until the pupil is satisfactorily adjusted to his position in life. The school has built its curriculum and program of services around the responsibility of adjusting the pupil to the world he lives in. Therefore, it still bears a share of that responsibility after the pupil has left school.

Myers discusses the responsibility of the industrial-arts department for following up pupils after they leave school to enter occupations in order to aid them in making the adjustments to employment life that are important for their progress. He says: (58:62)

The first few months of employment life bring many new problems to the young worker. He may have to do, for a time, work quite different from that of his chosen occupation. Even though he obtains the kind of work he wants, he may find that this choice of occupation was unwise. Although his
choice proves to have been wise and he finds work promptly in the chosen occupation, he may find working conditions unbearable in the first position, or he may displease his employer, or the employer may go out of business. If conditions in all of these respects are satisfactory, the need still arises for further preparation for the position held and for promotion to the next job ahead.

In meeting these problems, the young worker needs the help of a wise counselor. In the cases of those who are engaged in mechanical occupations closely related to the shopwork of the industrial-arts department, the teacher or teachers of industrial arts under whom they studied while in high school should be able to render them an invaluable service.

The heads of industrial-arts departments indicate an awareness of their responsibilities in counseling former pupils. About two-fifths of the department heads provide this counseling service. Less than one-half of the leaders of industrial arts consider this desirable, but almost two-thirds of the supervisors of industrial arts and guidance consider this a desirable service of the industrial-arts department.

Does Your Department Provide Occupational, Educational and Referral Information to Former Pupils?

The occupational, educational and referral information and counseling which the industrial-arts department is equipped or able to supply will be determined by local conditions. It is becoming more apparent, however, that the school has a responsibility for the adjustment of each pupil who leaves the school. Each department
must share in that responsibility. Myers has discussed providing adjustment services to former pupils as follows:

(57:325)

In the cases of those who are engaged in mechanical occupations closely related to the shopwork of the industrial-arts department, the teacher or teachers of industrial arts under whom they studied while in high school should be able to render them an invaluable service... it may well come finally to the industrial-arts teacher of whose classes the boy was formerly a member, provided that teacher has the qualifications already suggested as necessary if a good job of counseling is to be done.

About one-third of the department heads indicate that they supply occupational, educational and referral information to former pupils. Only one-third of the leaders consider this service desirable, but two-thirds of the supervisors of industrial arts and guidance consider it desirable.

Are Your Shop Records Cumulative?

The necessity for keeping shop records has been discussed at some length in the first part of this chapter. The shop records kept in recognition of the necessity for complete knowledge of the pupil indicate an interest in the individual welfare and ultimate adjustment of the pupil.

In many industrial-arts departments, it is possible for the teacher to have the same pupil from the time he
starts in the seventh grade until he finishes his high school education. If shop records are cumulative, an invaluable picture of pupil interests and abilities is presented, and the pupil can be helped to adjust successfully to the next step in his life and career.

Strang says that the ideal record is "a unified developmental picture of the individual. It... is best achieved by means of recorded observations of the student in action, samples of his work, records of his special achievements, and biographical and interview data."

Hopkins states: (42:38)

In most modern school systems, there are rather complete records which follow the student as he progresses from grade to grade. These contain now his scholastic standing, but also information about his intelligence quotient, his health, and his personal characteristics. These records should be used by the teacher of vocational work and industrial arts especially in the cases of problem children... Having made a careful study of each case, the shop teacher is in a position to decide which cases need special help in order to develop that adaptability which seems essential to industrial success.

On the same subject, Hill states: (41:29)

Schools are widely adopting such methods as the cumulative pupil-case-record cards. Such case record cards aid the teacher not alone in meeting individual needs, but also in adjusting curriculum content and method.

The industrial-arts teacher has a rich field which offers opportunities for intense application of cumulative case histories and all the other progressive trends in educational content and method.
The industrial-arts department heads are becoming conscious of the values of cumulative records. Almost two-fifths of them indicate that they keep cumulative shop records. More than two-thirds of the leaders and supervisors of industrial arts, and nearly all of the guidance supervisors indicate that they consider cumulative shop records desirable in the industrial-arts department.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study has been: (1) to learn what guidance services are being rendered to the individual pupil by the industrial-arts departments in the secondary schools of the United States, and the extent of cooperation between the industrial-arts departments and other school agencies in rendering guidance services; (2) to determine, from selected leaders of industrial arts and state supervisors of industrial arts and guidance, which guidance services they consider desirable in the industrial-arts departments, and which services they consider necessary; and (3) to determine, from a study of contemporary guidance and industrial-arts literature, the guidance services which may be rendered by the industrial-arts department. In this way, it was hoped to gain a clear picture of the guidance values of industrial arts in secondary education.

The introductory chapter of the study established the fact that both industrial arts and guidance services have developed out of the same basic need: the problem of adjusting the individual to the socio-economic problems of the modern industrial civilization.
Next came a statement of the purpose of the study, followed by definitions of several of the terms which were used throughout the study, some of which are subject to varying interpretations, and for which common definitions were necessary.

A statement of the limitations of the study emphasized the fact that bias may have been introduced by the inability to determine the relationship of the sample to the total population, but a study of state and national directories indicates that the returns approximate a representative sample.

A list of the sources of the data for the study includes the following:

1. Responses to questionnaires sent to a representative sampling of heads of industrial-arts departments in all parts of the United States.
2. Responses to the questionnaire sent to State Supervisors of industrial arts.
3. Responses to the questionnaire sent to State Supervisors of guidance services.
4. Responses to the questionnaire sent to heads of college industrial-arts departments responsible for training industrial-arts teachers.
5. Historical bibliographical sources.
6. Contemporary professional literature.
7. Official state and national publications dealing with
industrial arts and guidance.

The second chapter of the study traces the background of industrial arts in its relation to the concept of individual guidance, showing that instruction in manual arts and skills often has been accompanied by the philosophy of individual analysis, development and direction.

The statement of the problem indicates that leaders and writers in the field of industrial arts have ascribed to it certain values in aiding the pupil to interpret his abilities, capacities and needs in relation to his physical and social environment. The problem is to determine the contributions which industrial arts is making to the individual.

Guidance activities in industrial arts were classified as follows for the purpose of this study:
1. Learning about the pupil: Information gathering and record-keeping, including test records.
2. Personal assistance: Problems of pupil adjustment, including referrals, interviews, home-school relationship, and the exceptional pupil.
3. Informational services: Vocational, educational and avocational.
4. Post-secondary school adjustment to society.

The activities classified under these four main headings were discussed, and their use in industrial arts was supported by references from contemporary industrial
arts and guidance literature.

It was decided to approach the study from six different avenues in order to establish widely-accepted guidance values in industrial-arts education. Briefly stated, the six avenues are as follows:

1. Historical development of guidance functions and philosophy in industrial-arts education.

2. Study of contemporary professional literature dealing with the relationship between industrial arts and guidance.

3. Reaction of 602 heads of secondary-school industrial-arts departments from all parts of the United States to a questionnaire devoted to guidance services performed by their industrial-arts departments.

4. Reaction of ten recognized national leaders in the field of industrial arts to the questionnaire. Most of these leaders were heads of college industrial-arts departments responsible for training industrial-arts teachers.

5. Reaction of ten State Supervisors of Industrial Arts to the same questionnaire.

6. Reaction of nine State Supervisors of Guidance Services to the questionnaire.

A study of historical and contemporary bibliographical sources furnished the material for the first and
second avenues of approach.

The complete questionnaire will be found in the appendix with the letters and instruction sheets that accompanied it.

Presentation of the Study

Each of the nineteen main headings of the study was analyzed in its entirety, as seen in contemporary industrial arts and guidance literature. Then the first eleven headings were broken down into specific items under the main headings. Each item was handled from five different viewpoints: (1) study of contemporary literature to determine the place of the item in industrial arts and guidance; (2) reaction of 602 heads of secondary school industrial-arts departments to questionnaire, as shown by table and discussed in accompanying text; (3) reaction of ten leaders of industrial arts to the questionnaire; (4) reaction of ten state supervisors of industrial arts to the questionnaire; (5) reaction of nine state supervisors of guidance to the questionnaire.

After the analysis of each of the first eleven main headings, the findings from all sources were briefly summarized.

Questions twelve through nineteen had no specific sub-headings under the main headings. Each was approached from the same five viewpoints, without accompanying tables.
Guidance activities in industrial arts were divided, for purposes of this study, into four classifications. A summary of the results of the study under each classification will be presented in the following pages.

Learning about the Pupil

Information about the pupil is valuable in teaching and in counseling. Records including information from many sources may assist in pupil-understanding.

The industrial-arts department heads indicate an awareness of the values of personnel records by a limited participation in all phases of information-gathering and record-keeping. There is almost complete participation in keeping records of experiences closely connected with skills and knowledge gained from shop-work. There is limited participation by the industrial-arts department in the standardized test program, though many returns indicated that all testing was carried on by other school agencies. Information least often kept concerned the pupil's personality and his social and emotional qualities.

The leaders and supervisors of industrial arts are in general agreement with the department heads as to the types of records most desirable in the industrial-arts departments. The guidance supervisors, however, indicate that more extensive participation in all phases of
information-gathering and record-keeping is desirable.

**Pupil Assistance**

The industrial-arts department assists in pupil adjustment by means of referrals, interviews, fostering a desirable home-school relationship, and by making special provision for the exceptional pupil.

The department heads are most aware of the uses of referrals within the school, often referring pupils to other school agencies and other teachers, and providing service and information to pupils referred to their shops.

The interview is used by nearly all of the department heads for counseling about problems encountered in shop work, and discussing future educational and vocational plans. Many also use the interview for assisting the pupil to recognize his abilities and limitations. The leaders and supervisors are in close agreement as to the desirability of interviews about shop work and its vocational and educational implications.

The value of a favorable home-school relationship in the satisfactory adjustment of the pupil is also recognized, with a majority of the department heads favoring parent visits to school over teacher visits to the home for this purpose.

The industrial-arts department heads are in general and almost complete agreement on their responsibilities
toward the adjustment of the exceptional pupil. Responses indicated closer agreement on the desirability of special provision for these pupils than on any other service of the department.

Nearly all of the leaders and supervisors considered all of these services desirable, and the leaders felt that special provision for fast and slow learners is necessary.

Informational Services

Opportunities for the development of leisure-time interests and activities have long been considered among the most valuable offerings of industrial arts. Recognition of this value is shown by a majority of department heads in their emphasis on hobbies and choosing work for enjoyment. There is an apparent attempt to develop recreational activities around home interests through home workshops and interest in home mechanics.

There seems to be a lack of agreement on the necessity or desirability for presenting occupational and educational information in the industrial-arts department. The department heads indicate that they do supply some of this information to the pupils by various means. The leaders and supervisors also reflect a lack of agreement, though a small majority appears to consider
most of the means of presenting such information desirable. All sources apparently agree that the most desirable educational and occupational information in the industrial-arts shop is that pertaining to vocational training.

**Post-Secondary School Adjustment**

Contemporary literature indicates that the industrial-arts department can contribute to the post-secondary school adjustment of the pupil by various means. The returns from the questionnaire indicate, however, that the department heads assume little of the responsibility for this adjustment, either by the provision of placement techniques, placement facilities, or follow-up studies. About one-third of the department heads do provide counseling and informational services to former pupils.

The leaders and supervisors of industrial arts are in general agreement with the department heads. The guidance supervisors indicate that greater participation in the post-secondary school adjustment of the pupil may be desirable.

**Services to other School Departments and to the School's Individual Inventory**

The study has indicated that the majority of the industrial-arts departments apparently do not cooperate extensively with other departments in the school in the
provision of guidance services. The information most frequently supplied to other departments consists of shop achievement ratings and grades on quality of shop work. This is supplied by less than one-fifth of the departments.

The department heads do not contribute a large amount or variety of information about the pupil to the school's individual inventory, though almost one-half incorporate information about his home background and health status, and records of any standardized tests.

Conclusions

1. Industrial-arts departments do not attempt to gather and keep complete records about the pupil, but emphasize records and tests of subject-matter mastery and abilities and interests leading to the vocational phase of guidance.

2. The industrial-arts department participates in all phases of pupil-adjustment, including referrals, interviews, improving home-school relationship and special provision for the exceptional pupil. In pupil interviews, the emphasis is on the vocational aspects.

3. There is a recognition of the recreational values of industrial arts in developing leisure-time interests and skills contributing to worthy home membership.
4. Industrial-arts departments are aware of the guidance values of occupational and educational information for vocational adjustment. Leaders and supervisors agree in placing major emphasis on preparation for trade and technical training.

5. The industrial-arts department does not participate extensively in providing placement techniques, placement facilities, or follow-ups, though there is a limited participation, supported by the leaders and supervisors, in each of these services.

6. The state supervisors of guidance services indicate the desirability of a more extensive participation in guidance activities by the industrial-arts departments.

7. The leaders in industrial arts also consider more extensive participation in guidance activities desirable in the industrial-arts department.

8. While the industrial-arts department indicates an awareness of its responsibilities in guidance services, it reduces its guidance values by limited cooperation with other school departments.

Recommendations

1. That industrial-arts departments should gather, or have access to, information about the complete personality of the pupil rather than limiting their information to his shop-work.
2. That every industrial-arts teacher be required to have sufficient college work in guidance to enable him to understand the implications and participate in the activities of a program of guidance services.

3. That no standardized tests should be given in the industrial-arts department except by persons trained in their administration and interpretation.

4. That the industrial-arts department should use all available methods and materials for the dissemination of occupational information related to broad fields of industry, and particularly those fields related to subjects taught in the department.

5. The industrial-arts department should assist pupils in learning about their educational opportunities, with special emphasis on vocational preparation for entrance into industry.

6. That the industrial-arts department should incorporate information gathered about the pupil in the school's individual inventory in order that it may be easily accessible to all agencies engaged in assisting the pupil.

7. That the information about the pupil gained by the industrial-arts department should be sent to other departments in the school for their use in teaching and counseling the pupil.
8. That the industrial-arts departments make an active effort to integrate their programs of assistance to the pupil with the school program of guidance services.
BIBLIOGRAPHY


8. Bowman, Clyde A., "Graphic Aids in Continuous Occupational Analysis", Industrial Arts and Vocational Education, May, 1941


13. Chambers, Max, "The Hobby and Peace of Mind", Industrial Arts and Vocational Education, August, 1944


15. Crawford, John E., "Practical Psychology in the School Shops", Industrial Arts and Vocational Education, June, 1940


22. Diederich, Paul B., "Evaluation Records", Educational Method, 15, May, 1936


32. Frankel, A. H., "Guidance in the Industrial-Arts Shop", Industrial Arts and Vocational Education Magazine, April, 1949


41. Hill, Lester V., "Vocational and Avocational Interests of Students", Industrial Arts and Vocational Education Magazine, May, 1942

42. Hopkins, James E., "Training for Industrial Adjustment", Industrial Arts and Vocational Education Magazine, March, 1937

43. Improving Instruction in Industrial Arts, a Revision of the AVA Bulletin on Standards of Attainment in Industrial-Arts Teaching, American Vocational Association, Inc., Industrial Arts Division, Washington, D. C., 1946


46. Jacoby, Rufus, "Industrial Arts Promotes Mental Health", Industrial Arts and Vocational Education Magazine, June, 1946


53. Lush, Clifford K., "Obtaining Occupational Information", Industrial Arts and Vocational Education Magazine, September, 1938

54. Mays, Arthur B., "Unified Industrial Education Programs", Industrial Arts and Vocational Education Magazine, December, 1944


72. Schmidt, Fred J., Jr., "A Point of View", Industrial Arts and Vocational Education Magazine, June, 1938

73. Schweickhard, Dean M., Industrial Arts in Education. Peoria, Ill.: The Manual Arts Press, 1921. 367 pp


75. Smith, Homer J., "Broadening Responsibilities in Industrial Arts", Industrial Arts and Vocational Education Magazine, April, 1940


77. Sotzin, Heber A., A Comparison between Industrial Arts and Vocational Education, A brochure, published at San Jose State College, Dept. of Industrial Arts, 1946.

78. Standards of Attainment in Industrial-Arts Teaching, American Vocational Education Association, Industrial-Arts Division, Washington, D. C., 1934


82. The Expanding Program of Industrial Education, Papers presented at convention of American Administrators, Atlantic City, N. J., 1938


87. Wendt, Erhard F., "A Brief History of Industrial Arts and Vocational Education", Industrial Arts and Vocational Education Magazine, April, 1946.


APPENDICES
**INSTRUCTIONS FOR FILLING OUT QUESTIONNAIRE**

Draw a circle (0) around your response in Column A.

Check (X) in Column B if Industrial-Arts Department supplies the information to any other department of the school.

Check (X) in Column C if information is incorporated in school's inventory of the individual.

<table>
<thead>
<tr>
<th>1. Does your shop record of each individual pupil contain the following information?</th>
<th>Column A</th>
<th>Column B</th>
<th>Column C</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Home background</td>
<td>Yes</td>
<td>No</td>
<td>Incorporates in school's inventory of individual</td>
</tr>
<tr>
<td>b. Health status</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>c. Statement of unusual abilities</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>d. Statement of unusual talents</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>e. Statement of leisure-time interests</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>f. Standardized test records</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>g. Interest inventory records</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>h. Informal shop-test records</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>i. Ratings of skills</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>j. Anecdotes of shop incidents</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>k. Shop achievement ratings</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>l. Record of projects completed</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>m. Units of work covered</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>n. Quality of work</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>o. Experience areas explored</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>p. Record of mechanical competence in areas explored</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>q. Work experiences outside school</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>r. Ratings and anecdotes of personality qualities</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>s. Ratings and anecdotes of social qualities</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>t. Ratings and anecdotes of emotional qualities</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>u. Information on other school activities</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>v. Occupational fields discussed</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>w. Statements of educational plans</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>x. Statements of vocational plans</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>y. Interview notes or summaries</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
2. Does the standardized test program of your industrial-arts department include the following?  

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. General intelligence test</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Mechanical aptitudes test</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Other aptitudes tests</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Vocational interest inventory</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Other interest inventories</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Personality rating</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Achievement tests</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Other? If yes, please list:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Does your shop assist in pupil adjustment by means of the following?  

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Referral to medical service</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Referral to psycho-educational clinics</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Referral to social agencies</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Referral to local agencies for information—(Chamber of Commerce, Service Clubs, etc.)</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Referral to other school agencies—(testing, commercial, vocational depts., etc.)</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Referral to other teachers</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Provision of service and information for pupils referred to your shop.</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Do your pupil interviews include the following points?  

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Current shop work</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Future educational and vocational plans</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Social adjustment</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Home life</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Emotional adjustment</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Understanding of individual ratings</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Recognition of abilities</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Recognition of limitations</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Is an interview required of each pupil?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Is the interview by appointment?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. Is special time provided in your schedule for interviewing?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>l. Do you have a private place to carry on the interview?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. Are home-school relationships developed by the following means?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Parent interviews</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Home visits</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Parent visits to school shop</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. List any other:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Is special provision made for the adjustment of the following types of pupil?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Slow learner</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Fast learner</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Withdrawn personality</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Aggressive personality</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Disciplinary problem</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Are leisure-time activities developed in your shop by the following methods or considerations?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Is part of the shop organized for recreational handicrafts?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Are pupils instructed in the value of hobbies?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Are recreational aspects of mechanical activities an integral part of the program?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Are hobby clubs used?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Are pupils permitted to choose work they enjoy?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Do you help pupils to plan home workshops?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Do you teach simple home mechanics?</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Does your shop program provide for presenting the following occupational means?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Adequate selection of occupational books</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Dictionary of Occupational Titles</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Occupational briefs, monographs, pamphlets</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Film strips and motion pictures of occupations</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Pupil visits to local occupational activities</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Community occupational survey</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Study of employment trends</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Guest speakers discussing occupational fields</td>
<td>Yes No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8. Occupational Information (Continued)  

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Study of entry occupations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Emphasis on occupations considered by pupils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. Instructions on sources of occupational information</td>
<td></td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>l. Methods of preparing job analyses</td>
<td></td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>m. Instructions on use of job analyses</td>
<td></td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>n. Shop clubs to study careers</td>
<td></td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>o. Information on opportunities for vocational training</td>
<td></td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>p. Do you assist the pupil in rating his personality from the employer's viewpoint?</td>
<td></td>
<td></td>
<td>Yes No</td>
</tr>
<tr>
<td>q. Is your occupational information limited to those experience areas explored in your shop?</td>
<td></td>
<td>Yes No</td>
<td></td>
</tr>
</tbody>
</table>

9. Does your shop program provide for presenting the following educational information?  

| a. Information about curricular offerings in school | Yes No |
| b. Information about co-curricular offerings in school | Yes No |
| c. Scholarships and their requirements | Yes No |
| d. Entrance requirements to colleges | Yes No |
| e. Entrance requirements to technical or trade schools | Yes No |
| f. Entrance requirements for apprenticeship training for trades | Yes No |

10. Does your shop program provide for information about courses and training procedures in the following?  

| a. Colleges | Yes No |
| b. Business college and commercial schools | Yes No |
| c. Trade and technical schools | Yes No |
| d. Evening school | Yes No |
| e. Correspondence courses | Yes No |
| f. Military services | Yes No |
| g. Apprenticeship | Yes No |

11. Does your shop program provide the following placement techniques?  

| a. How to answer want-ads | Yes No |
| b. How to write letters of application | Yes No |
| c. How to fill out application blanks | Yes No |
| d. How to conduct self during interview with prospective employer | Yes No |
11. Placement techniques (Continued)

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>11. Placement techniques (Continued)</strong></td>
<td><strong>A</strong></td>
<td><strong>B</strong></td>
<td><strong>C</strong></td>
<td></td>
</tr>
<tr>
<td>e. How to state qualifications for employment</td>
<td>Yes No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Uses of state employment service in job hunting</td>
<td>Yes No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. How to register with placement agencies</td>
<td>Yes No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. How to maintain proper employer-employee relationships</td>
<td>Yes No</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12. Do you provide placement in part-time work or other work experience opportunities outside the school? 

**Yes No**

13. Do you provide placement facilities for graduates?

**Yes No**

14. Do you provide placement facilities for drop-outs?

**Yes No**

15. Does your industrial-arts department make regular follow-up studies of graduates?

**Yes No**

16. Does your industrial-arts department make regular follow-up studies of drop-outs?

**Yes No**

17. Does your department provide counseling services to former pupils?

**Yes No**

18. Does your department provide occupational, educational and referral information to former pupils?

**Yes No**

19. Are your shop records cumulative?

**Yes No**

---

**Name**

**School**

**Address**

**Title or position**

**Years experience in Ind. Arts**

**Total number teachers in Ind. Arts Dept.**

**Grades in your school**

**Maximum number shop subjects or areas offered in each grade**

7th  8th  9th  10th  11th  12th  

**Check grades in which industrial arts is required**

7th  8th  9th  10th  11th  12th  

**Check type of shop organization**

General shop  Unit shop  Other (name)
How many of your industrial-arts teachers have had one or more college courses in guidance?

Is there an organized guidance program in your school?

If you would like to comment on the relationship between industrial arts and guidance, or on any phase of the questionnaire, please feel free to do so. Any expression of opinion will be appreciated.
Oregon State College
Corvallis, Oregon
September 15, 1949

Head of the Industrial-Arts Department

Dear Sir:

In a search for those factors that make industrial arts of greatest value to the individual, I am endeavoring to determine how it is integrated with guidance. Guidance has been recognized as one of the major values of industrial arts. It has appeared as a desired outcome in almost every course of study published, and has been discussed by many writers within the field. A survey is now being initiated in an attempt to learn in what ways industrial arts functions as a medium for guidance.

It is our plan to have the heads of industrial-arts departments in selected schools throughout the United States point out, by means of a questionnaire, the guidance functions carried on by their departments. It is hoped that this study will contribute information of value to the future of the industrial-arts program.

All information will be treated confidentially and impersonally. Names and places will not be mentioned, except where specific permission is granted.

Your immediate and conscientious attention will be greatly appreciated, and you will be informed of the findings of the study.

Yours truly,

Wayne S. Martin
INSTRUCTIONS FOR COMPLETING QUESTIONNAIRE

The object of this inquiry is to determine the extent of guidance in industrial arts.

The first question consists of 25 broad informational units centered around industrial-arts department records of the individual pupil.

Questions 2 through 11 are devoted to analysis of methods and materials used in guidance processes.

It must be clearly understood that ALL questions pertain only to the guidance functions of your industrial-arts department, not to the general guidance program of your school.

Questions 1 through 11 may be answered in any or all of three ways, as indicated by Columns A, B, and C. Answer columns B and C only when they apply to record-gathering or record-keeping.

In column A, circle yes or no, indicating whether you gather and keep such information about each pupil, or have and use the listed materials or methods.

In column B, indicate by check (x) if your industrial-arts department supplies the specific information about each pupil to other departments in the school, including the guidance department or the principal's or superintendent's office.

In column C, check (x) if such information gathered by your industrial-arts department is incorporated in the school records of each pupil.

Questions 12 through 19 seek placement and follow-up information, and may be answered by circling a yes or no response.
Oregon State College
Corvallis, Oregon

Dear Dr. ____________________:

Because of your distinguished record and constant interest in industrial-arts education, you may be interested in my research into the integration of industrial arts and guidance in secondary education. I am taking the liberty of sending you a copy of the questionnaire used in a national sampling of industrial-arts departments in junior and senior high schools.

I hope that you will be interested in the questionnaire. You can make a valuable contribution to the study if you will check those services which you consider desirable, double-checking those which you consider necessary. Any statement of your views on this subject will be highly valued.

I enclose a copy of the questionnaire, with return envelope. I am also enclosing a copy for your files, with the letter and instructions sent to secondary departments.

Your opinions, as an authority in the field, will contribute much to my study.

Sincerely yours,

Wayne S. Martin
I have been engaged in a study of the degree of integration between industrial arts and guidance in the secondary schools of the United States. In the course of this study, I sent questionnaires to many heads of industrial-arts departments in every state, and have received an interesting and significant response.

You would be making a valuable contribution to the study if you would, using the same questionnaire, indicate the precise guidance functions which you, as a state supervisors of industrial arts, consider desirable, and those, in your opinion, that are necessary in a secondary industrial-arts program.

I would appreciate your opinions on any phase of the questionnaire. In addition, any statement you may care to make about the study will be helpful.

Thanking you for your consideration, I am

Very truly yours,

Wayne S. Martin
Mr. ______________________, Supervisor

Occupational Information and Guidance Services
Board of Vocational Education

Dear Mr. ____________________:

I have been engaged in a study of the degree of integration between industrial arts and guidance in the secondary schools of the United States. In the course of this study, I sent questionnaires to many heads of industrial-arts departments in every state, and have received an interesting and significant response.

You would be making a valuable contribution to the study if you would answer the same questionnaire from the standpoint of the state supervisor of the organized guidance program. Do you feel that secondary school industrial arts can contribute certain specific services to the guidance program?

I would appreciate your opinions on any phase of the questionnaire. In addition, any statement you may care to make about the study will be helpful.

Thanking you for your consideration, I am

Very truly yours,

Wayne S. Martin
INSTRUCTIONS TO STATE SUPERVISORS OF INDUSTRIAL ARTS FOR COMPLETING ENCLOSED QUESTIONNAIRE

The following statements were developed in an attempt to determine the extent of guidance in secondary school industrial-arts programs, and were sent to the heads of secondary school industrial-arts departments in each state.

DISREGARD INSTRUCTIONS ON THE QUESTIONNAIRE

In column A, please indicate by circling "yes" or "no" whether, in your opinion as a supervisor, the function or condition in question should be included in secondary school industrial-arts programs.

Check (X) after those functions or conditions you consider necessary.

DISREGARD COLUMNS B AND C
INSTRUCTIONS TO STATE SUPERVISORS OF GUIDANCE

FOR COMPLETING ENCLOSED QUESTIONNAIRE

The following statements were developed in an attempt to determine the extent of guidance in secondary school industrial-arts programs, and were sent to the heads of secondary school industrial-arts departments in each state.

DISREGARD INSTRUCTIONS ON THE QUESTIONNAIRE

In column A, please indicate by circling "yes" or "no" whether, in your opinion as a supervisor, the function or condition in question should be included in secondary school industrial-arts programs.

Check (X) after those functions or conditions you consider necessary.

DISREGARD COLUMNS B AND C
DISTRIBUTION LIST

The list of questionnaires sent, usable returns, and non-usable returns follows:

<table>
<thead>
<tr>
<th></th>
<th>Sent</th>
<th>Usable returns</th>
<th>Not used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>15</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Arizona</td>
<td>20</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Arkansas</td>
<td>20</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>California</td>
<td>80</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Colorado</td>
<td>40</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Connecticut</td>
<td>40</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Delaware</td>
<td>10</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Florida</td>
<td>40</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Georgia</td>
<td>40</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Idaho</td>
<td>20</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Illinois</td>
<td>80</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Indiana</td>
<td>60</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>Iowa</td>
<td>60</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>Kansas</td>
<td>80</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>Kentucky</td>
<td>20</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Louisiana</td>
<td>40</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Maine</td>
<td>20</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Maryland</td>
<td>40</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>80</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>Michigan</td>
<td>80</td>
<td>32</td>
<td>3</td>
</tr>
<tr>
<td>Minnesota</td>
<td>60</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>Mississippi</td>
<td>20</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Missouri</td>
<td>40</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Montana</td>
<td>20</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Nebraska</td>
<td>20</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Nevada</td>
<td>14</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>New Hampshire</td>
<td>20</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>New Jersey</td>
<td>40</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>New Mexico</td>
<td>14</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>New York</td>
<td>80</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>North Carolina</td>
<td>20</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>North Dakota</td>
<td>9</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Ohio</td>
<td>80</td>
<td>28</td>
<td>3</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>40</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Oregon</td>
<td>40</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>80</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Rhode Island</td>
<td>14</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>South Carolina</td>
<td>20</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>South Dakota</td>
<td>20</td>
<td>10</td>
<td>3</td>
</tr>
</tbody>
</table>

Continued on next page
<table>
<thead>
<tr>
<th>State</th>
<th>Sent</th>
<th>Usable returns</th>
<th>Not used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tennessee</td>
<td>20</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td>60</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Utah</td>
<td>40</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Vermont</td>
<td>20</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>Virginia</td>
<td>40</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>40</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>West Virginia</td>
<td>40</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>40</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>Wyoming</td>
<td>12</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>1867</strong></td>
<td><strong>602</strong></td>
<td><strong>61</strong></td>
</tr>
</tbody>
</table>
CLASSIFICATION OF SCHOOLS

The returns from the questionnaires showed that the following classifications of schools were represented in the study:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 7 and 8</td>
<td>4%</td>
</tr>
<tr>
<td>Grades 7, 8 and 9</td>
<td>9%</td>
</tr>
<tr>
<td>Grades 10, 11 and 12</td>
<td>11%</td>
</tr>
<tr>
<td>Grades 9, 10, 11 and 12</td>
<td>27%</td>
</tr>
<tr>
<td>Grades 7, 8, 9, 10, 11 and 12</td>
<td>49%</td>
</tr>
</tbody>
</table>

Of the schools reporting, industrial arts was taught in the grades as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 7</td>
<td>66%</td>
</tr>
<tr>
<td>Grade 8</td>
<td>60%</td>
</tr>
<tr>
<td>Grade 9</td>
<td>63%</td>
</tr>
<tr>
<td>Grade 10</td>
<td>84%</td>
</tr>
<tr>
<td>Grade 11</td>
<td>60%</td>
</tr>
<tr>
<td>Grade 12</td>
<td>73%</td>
</tr>
</tbody>
</table>

Of those schools offering industrial arts, it is a required course in the following grades:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 7</td>
<td>82%</td>
</tr>
<tr>
<td>Grade 8</td>
<td>84%</td>
</tr>
<tr>
<td>Grade 9</td>
<td>28%</td>
</tr>
<tr>
<td>Grade 10</td>
<td>12%</td>
</tr>
<tr>
<td>Grade 11</td>
<td>6%</td>
</tr>
<tr>
<td>Grade 12</td>
<td>5%</td>
</tr>
</tbody>
</table>

The shop organization shows the following:

<table>
<thead>
<tr>
<th>Shop</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit shop</td>
<td>33%</td>
</tr>
<tr>
<td>General shop</td>
<td>35%</td>
</tr>
<tr>
<td>Combination</td>
<td>27%</td>
</tr>
</tbody>
</table>

The size of the departments is indicated by the number of teachers, as follows:

<table>
<thead>
<tr>
<th>Department</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-teacher departments</td>
<td>40%</td>
</tr>
<tr>
<td>Multi-teacher departments</td>
<td>60%</td>
</tr>
</tbody>
</table>
CLASSIFICATION OF SCHOOLS (Continued)

Of the schools surveyed, seventy-one per cent indicated that they employed at least one teacher in the department who had one or more college courses in guidance.
APPENDIX B

RESPONSES FROM LEADERS IN THE FIELD OF INDUSTRIAL ARTS,
STATE SUPERVISORS OF INDUSTRIAL ARTS AND GUIDANCE,
AND INDUSTRIAL-ARTS DEPARTMENT HEADS
SOME COMMENTS ON GUIDANCE VALUES OF INDUSTRIAL ARTS,
FROM CORRESPONDENCE OF CONTRIBUTORS TO THIS STUDY

S. Lewis Land, Head
Dept. of Industrial Ed.
Pennsylvania State College
State College, Pa.

I have filled in and am returning with this your questionnaire form. The form, of course, is most meaningful when interpreted in terms of a particular city. The size of city in which the industrial arts program is offered will determine to a considerable extent the nature of participation by the Industrial Arts Department in some of the activities which are listed. As an illustration in Section 3f, "Referral to other teachers", in the small school system this might be the responsibility of the industrial arts teacher. In the large school system, the industrial arts teacher might refer the student to the Guidance Department who, in turn, would refer the student to another teacher.

---

Ivan Hostetler, Head
Dept. of Industrial Arts
University of North Carolina
Raleigh, N. C.

... many or all of the items listed under some headings are important and should be included in an industrial arts program, but many of which are found in other departments of the school.

Furthermore, in the vast majority of schools, the industrial arts teacher would not have time to take care of such an elaborate program as your questionnaire implies. Many of the items which you asked of the industrial-arts teacher would be more applicable to a vocational industrial education program than industrial arts. I have given a negative answer for the items found under a number of your questions not because they are not important, but because I do not feel that the industrial arts teacher would be in a position to take care of them.

---
Arthur B. Mays  
Professor of Industrial Ed.  
University of Illinois  
Urbana, Illinois

I have gone through your questionnaire and have tried to mark it in harmony with your instructions and have found it a very interesting questionnaire. I am particularly interested in your study for the reason that I have always been of the opinion that the guidance values of industrial arts are among their least important values. The exploratory values, so-called, have been greatly exaggerated by writers and general educators.

William T. Bavden  
Former Head of Department of Industrial Ed.  
Kansas State Teachers College  
Pittsburg, Kansas

During the ten years I served as Head of the Department--indeed, throughout my entire career as an educator--I have been mindful of the need and grave importance of guidance in dealing with young people, and more especially in dealing with students and teachers under my supervision. I am sure I have functioned as counselor on many occasions. Yet I must confess that what I have been able to accomplish along this line has been entirely without any organized plan of procedure or machinery such as is contemplated in your inquiry.

John F. Friese  
Professor of Industrial Arts  
Pennsylvania State College  
State College, Pa.

You may know of my interest in the guidance aim of industrial arts. My responses are not very objective because you have lumped the mandated junior high program with the elective senior high program. In many places I would vote no for an item if applied to junior high school, but yes if senior high school, and vice versa.
H. H. London, Head
Industrial Arts Department
University of Missouri
Columbia, Mo.

The industrial arts teacher should work in close cooperation with the school counselor, the day-trade teachers, the coordinator and the supervisor of apprentices and evening classes.

---

Homer J. Smith
Professor of Industrial Education
University of Minnesota
Minneapolis 14, Minnesota

Every teacher has guidance responsibility.  
Every teacher should have guidance instruction.  
Every teacher should give first attention to his subject.  
Guidance counselors are becoming consultants or aids to teachers rather than carrying the load alone.  
Industrial arts teachers have rare opportunities in guidance.

---

Deyo B. Fox, Head
Department of Industrial Education
Western Michigan College of Education
Kalamazoo, Michigan

Like some other school subjects, industrial arts has guidance values. The way I have answered will appear obvious to you that in my thinking I could not answer all questions by "yes" or "no".

---

Merton C. Wheeler, Supervisor
Industrial Education
Jefferson, Missouri

It is my contention that there are so many things demanding the industrial arts teacher's attention that, while some of the guidance functions may be desirable, they are almost more than he can do; also, there are many that are quite general in nature and possibly should be done by a guidance counselor, or some person
particularly trained for this type of work. It is impossible for the industrial arts teacher not to show some interest in many of these items, but to make them an organized part of his course would become so involved that the course would be little less than a guidance and counseling program.

Maurice C. Varney, Director
Trade and Industrial Education
Augusta, Maine

I feel that guidance of your youth is of vital importance; that if this work is performed in an effective and adequate manner it makes little difference who does it. Frankly, I think that most of our industrial arts instructors are consciously and often-times unconsciously acting in the capacity of guidance counselors... I feel, nevertheless, that they should be informed relative to these matters and that adequate printed material be available in the shop library to assist pupils to find the answers to many of the perplexing questions that arise concerning their ultimate vocations.

O. D. Davis, Consultant in
Industrial Arts Education
State of California
Sacramento, Cal.

If all items are used in any industrial arts program, it could not be other than a good program. Of course, it is not feasible to give much time to all of the items listed. The very nature of the industrial arts program indicates that any program that fulfills the objectives of industrial arts should have in some manner all of the features that you have indicated in your questionnaire. The features and the degree to which any are used depends upon local situations.

Perhaps no other teacher in the school becomes as closely acquainted with the student as the industrial arts teacher. If we consider in our objectives in industrial arts that it is our responsibility to prepare our students to take their place in everyday life, certainly those who have had sufficient guidance and counseling are better prepared than those who are just exposed to subject material. The individual nature of the instruction in industrial arts makes it possible for us to give individual
guidance to each student and this should be done to the fullest extent. If it is done, the more information the instructor has concerning each student the better job he can do in his guidance work.

The more information about the various fields of work that we can give our students the better they are prepared to fit themselves into our social and economic structure. In fact, we might look upon the Secondary Industrial Arts program as being one in guidance in the broad sense.

Vernon F. Larsen
Assistant Director of Guidance Services
Salt Lake City, Utah

You will note that in general I have expressed agreement that such items are pertinent to guidance services in an industrial arts department.

The only basic question that arises is to what extent should these services be taken over by an industrial arts department as against having them carried forward by the central guidance committee or guidance workers in the school. The answer to this question, of course, could only be determined when a full consideration of the specific over-all school organization is made. Even when complete services are available from an organized guidance program, there would still be a certain portion of the services indicated in your check list left to be performed by the industrial arts department. It is difficult to isolate these specific items without knowing the organization of the school. Certainly the various departments in the school do have important responsibilities for their portion of such services. This would extend in some degree to each of your major 19 divisions or items of your questionnaire.

Bruce E. Shear, Associate Education Supervisor
State of New York
Albany, New York

Last fall at a joint conference of supervisors of industrial arts and vocational education and guidance, one of the meetings was given to the topic of cooperation between industrial arts teachers and guidance counselors. It was the opinion of those present that industrial arts teachers had much to contribute to the guidance program and also that counselors are anxious to get such information as these teachers can give. Those
present also felt that much occupational information might be conveyed to pupils through Industrial Arts classes.

Harvey A. Heintzelman, Chief
Occupational Information and Guidance
State of Pennsylvania
Harrisburg, Pa.

The school records themselves of course must be cumulative, and unless record keeping is to become a burden, these records should be consolidated in one central place where they would be readily available to all persons having need for them.

Question three, concerning referrals to various agencies and for various services, should be done through one central point in order to coordinate all the activities of the school.

Eleanor M. Zels, State Supervisor
Occupational Information and Guidance
State of Mississippi
Jackson 5, Mississippi

The fact that I have worked very closely with the institutions of higher learning, others in the State Department of Education, and local schools to develop training programs for industrial arts teachers, course outlines, and interest on the local level is sufficient evidence to prove how interested I am in Industrial Arts programs. Much of that interest stems from the fact that I definitely believe that the program can contribute much to the over-all guidance programs in our schools.

My main criticism of your questionnaire is that the answers are dependent entirely on the organization and staff within the local school. If the local school has a trained counselor, many of the listed activities should be done better by him than by the man trained in industrial arts. However, where there is no counselor, the industrial arts teacher might learn to administer these activities rather efficiently. The activities mentioned would require more it time than most industrial arts teachers have to devote to tasks other than teaching their classes.
John S. Charlton, Director  
Child Development and Guidance  
State of Delaware  
Dover, Delaware

The study is quite interesting and I am sure will reveal many of the fine functions that the industrial arts people are contributing toward the overall guidance program. However, I would like to state that my answers may be somewhat biased in as much as I was an industrial arts teacher for fifteen years. In all probability my answers were determined largely by what I tried to do and what I thought a good industrial arts teacher should do in any school situation.

---

Warren E. Benson, Supervisor  
Guidance and Placement  
Commonwealth of Massachusetts  
Boston, Mass.

Eventually our study showed that the whole educational program could be the better served if the industrial arts segment as well as all other instructional segments would develop to a point of efficiency where their operations would be eventually rendering collateral services and information which would be useful for guidance of individuals. . . . The eventual agreement was that industrial arts should strengthen its own operations and cooperate more fully with the proved professional Guidance Services. In this way the total educational program, including industrial arts as well as guidance, would benefit. Under these conditions our main objective of better serving the individual pupils would be accomplished.

---

L. D. Adams, Supervisor  
Guidance and Adult Education  
Commonwealth of Virginia  
Richmond, Virginia

In my opinion, this information on the individual pupil is essential to good teaching since all teachers must take their place and do their part in the program of guidance.

The question that I raise is "Who should collect and complete this information?" and it seems to me that the answer here is a cooperative program between all teachers and the guidance department of the school.
Sven Hedlund, Head
Industrial Arts Department
Florence Twp. High School
Florence, N. J.

It is my opinion that the industrial arts department is the ideal place for vocational guidance. The shop teacher is usually better informed in the field; also the industrial arts department lends the proper atmosphere. If the administration has a proper concept of the possibilities of achievement in this field, and refrains from loading the department down with all sorts of chores, the industrial arts department can do a superlative job of guidance.

---

Howard J. Roen
Head of Industrial Arts Dept.
Freeport High School
Freeport, Ill.

Due to the fact that we in industrial arts work have the exceptional opportunity to observe the students during an informal situation which promotes free social intercourse we can, better than any other teacher, recognize maladjustments in their true forms.

Any competent industrial arts instructor will, during his everyday teaching, have innumerable opportunities to carry out constructive counseling based upon an immediate situation (which will closely resemble a real-life situation). This type of counseling can not be avoided; but this does not necessarily mean it is always administered constructively and most efficiently.

It is for this reason that I feel industrial arts instructors especially should be given a thorough grounding in fundamentals of psychology and counseling techniques.

---

R. Curtis Lamberton, Head
Industrial Arts Dept.
Bradford Academy
Bradford, Vermont

Although this school is in a rural setting and all children are familiar with common hand tools to a certain extent, I believe that the industrial arts course offers the best means of encouraging the slow learner and the
pupil with withdrawn personality. Every pupil enjoys working with his hands and a project properly finished is proof to everyone, including himself, of his ability.

---

F. Webster Diehl, Chairman
Dept. Fine and Industrial Arts
Belleville High School
Belleville 9, New Jersey

We were very interested in your questionnaire. We held a special departmental meeting to discuss it. At present we are in the mist of developing a program to coordinate pupil interests, insofar as they are commensurate with abilities, with the subject matter offered. We believe that there is a greater correlation between interest and ability to complete work successfully than we have heretofore recognized.

Our plans call for interviews, and cumulative records, of background, interests, ability ratings, and accomplishment scores. These will influence but not necessarily determine course content and teaching procedure.

---