Structural Components of the Diploma Nursing Program Curriculum
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National League for Nursing
A Report on the Study of the Curriculum in Diploma Programs

By Katherine Brim, RN, MA

Utilization of Structural Components in Curriculum Design

By Sister Miriam Kevin Phillips, RN, MEd

Reflection of the Characteristics of Diploma Programs and Competencies of the Graduates in the Curriculum

By Barbara B. Hooker, RN, MS

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A Report on the Study of the Curriculum in Diploma Programs

Katherine Brim, RN, MA
Director of Council Affairs
Council of Diploma Programs
National League for Nursing
New York, NY

The report of the study Curriculum in Diploma Programs: Its Plan and Implementation has provided answers to a variety of questions about the practices and characteristics of diploma programs in nursing. It also raised issues that need further study and investigation by all concerned with diploma education.

One of the most striking outcomes of the study was the wide divergence among the programs in length of program, divisions of time in curriculum design, and number of hours planned for the different course offerings.

The findings also showed common elements among the majority of programs, such as the established relationships with a college or university for the teaching of the biological, physical, and social sciences and the teaching of all major nursing courses by faculty appointed by the school of nursing.

The study identified certain practices that need attention at many schools: (1) establishing a more definitive ratio of hours between theory and laboratory practice; (2) establishing realistic and cost-effective ratios of instructors to students in the classroom and clinical laboratory; (3) determining how the curriculum can be designed and implemented to meet the needs of students from a wide range of educational and experiential backgrounds; (4) determining what college courses are essential and appropriate to diploma programs; (5) identifying which college courses do not directly relate to the objectives of the program but only lead to accumulating credit; (6) deciding what major and

essential learning or experiences in nursing will provide graduates with the expected competencies; (7) validating the objectives used to develop the curriculum; and (8) recognizing that the competencies of the graduates relate directly to a curriculum plan that follows sound educational principles in its organizational structure and includes essential and sufficient learning experiences.

The structure of the curriculum is influenced directly by those components used to establish the structural framework of the curriculum plan and those aspects of the school that indirectly have an impact on the development and implementation of the curriculum.

Before reviewing the data collected for the 1981 study, it is important to know the background: the questionnaire was sent to 297 diploma programs and 243 questionnaires were returned. The information provided by the schools was based on the curriculum plan in effect for students admitted in 1980.

**STRUCTURAL COMPONENTS**

**Length of Program**

The data indicated a wide spread between the shortest and longest diploma programs, which range from 65 weeks to 144 weeks with an average of 110 weeks. Table 1 compares the length of the programs in 1962 and 1982.

<table>
<thead>
<tr>
<th>Range of Weeks</th>
<th>1962 Number of Programs (N=718)</th>
<th>1981 Number of Programs (N=241)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range of Weeks</td>
<td></td>
</tr>
<tr>
<td>Less than 96</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>96-100</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>101-110</td>
<td>10</td>
<td>62</td>
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<tr>
<td>111-120</td>
<td>21</td>
<td>65</td>
</tr>
<tr>
<td>121-130</td>
<td>36</td>
<td>51</td>
</tr>
<tr>
<td>131-140</td>
<td>83</td>
<td>10</td>
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<tr>
<td>141 and over</td>
<td>556</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: *Curriculum in Diploma Programs*, p. 12.

Thirty-four programs reported that the curriculum is offered in two years

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or less, but six of these programs consisted only of nursing courses since certain college courses were a prerequisite to admission to the nursing program. The other 28 two-year programs ranged from 65 to 102 weeks.

Two hundred and nine programs reported that their curriculums were designed to cover three years. Within this time frame, twelve programs reported their curriculums plans are completed in 80-97 weeks. The remaining 197 programs reported a range of 100-144 weeks in their curriculum design.

The wide variation in the length of the programs raises questions:

1. Is each of these programs meeting the characteristics of a diploma program?
2. Can the competencies of the graduates from programs of such varying lengths be comparable?
3. What implications do the curriculums designed to be completed in 65 to 144 weeks have for students, faculties, the public, and the employers of the graduates?

The Divisions of Time

Another variation was the time periods into which the curriculums are divided. Only 69 programs of the 219 responding to this question reported that the same time period (semesters or quarters) was used consistently for the entire plan. The remaining 150 programs indicated a variety of patterns: a combination of semesters and quarters or semesters or quarters combined with terms of 3, 4, 5, 6, 7, 8, 9, or 10 weeks. It is possible that these short terms (3-7 weeks) are limited learning experiences, designated as courses by some faculties, in operating room nursing, emergency room nursing, rehabilitation nursing, and care of patients in nursing homes. The length of major nursing courses frequently falls within an 8-10 week time frame. However, the following questions about such variations in length of terms within a curriculum plan will need careful study:

1. What is the faculty's concept of a course?
2. What is the faculty's rationale for planning courses of 3-7 weeks duration?
3. Are these short-term courses in keeping with the level objectives and other courses within the levels?
4. Is student load equitable from term to term when the length of terms vary?
5. How are faculty assignments made? Are the responsibilities and teaching load for instructors equitable?
6. Can all faculties design a curriculum in which terms are of fairly equal length throughout the program?
Table 2. Hours for Clinical Nursing Courses, by Length of Program

<table>
<thead>
<tr>
<th>Course</th>
<th>Two-Year Programs with College Prerequisites</th>
<th>Two-Year Programs</th>
<th>Three-Year Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80-97 Weeks</td>
<td>65-102 Weeks</td>
<td>80-90 Weeks</td>
</tr>
<tr>
<td>Fundamentals of Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>54 - 154</td>
<td>60 - 267</td>
<td>20 - 197</td>
</tr>
<tr>
<td>Mean</td>
<td>103</td>
<td>118</td>
<td>106</td>
</tr>
<tr>
<td>Laboratory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>59 - 476</td>
<td>35 - 300</td>
<td>26 - 448</td>
</tr>
<tr>
<td>Mean</td>
<td>353</td>
<td>144</td>
<td>175</td>
</tr>
<tr>
<td>Medical Surgical Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>72 - 300</td>
<td>92 - 600</td>
<td>80 - 900</td>
</tr>
<tr>
<td>Mean</td>
<td>187</td>
<td>282</td>
<td>254</td>
</tr>
<tr>
<td>Laboratory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>216 - 691</td>
<td>219 - 719</td>
<td>216 - 1800</td>
</tr>
<tr>
<td>Mean</td>
<td>508</td>
<td>543</td>
<td>611</td>
</tr>
<tr>
<td>Maternity Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>36 - 100</td>
<td>64 - 130</td>
<td>30 - 132</td>
</tr>
<tr>
<td>Mean</td>
<td>65</td>
<td>61</td>
<td>72</td>
</tr>
<tr>
<td>Laboratory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>162 - 230</td>
<td>75 - 192</td>
<td>90 - 600</td>
</tr>
<tr>
<td>Mean</td>
<td>194</td>
<td>132</td>
<td>175</td>
</tr>
<tr>
<td>Nursing of Children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>36 - 100</td>
<td>64 - 130</td>
<td>30 - 123</td>
</tr>
<tr>
<td>Mean</td>
<td>66</td>
<td>61</td>
<td>72</td>
</tr>
<tr>
<td>Laboratory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>162 - 224</td>
<td>75 - 192</td>
<td>90 - 288</td>
</tr>
<tr>
<td>Mean</td>
<td>191</td>
<td>132</td>
<td>198</td>
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<tr>
<td>Maternal-Child Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Range</td>
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</tr>
<tr>
<td>Mean</td>
<td>131</td>
<td>160</td>
<td>123</td>
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<tr>
<td>Laboratory Hours</td>
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<td></td>
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<tr>
<td>Range</td>
<td>120 - 480</td>
<td>252 - 420</td>
<td>252 - 432</td>
</tr>
<tr>
<td>Mean</td>
<td>297</td>
<td>324</td>
<td>334</td>
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</table>
Table 2. Hours for Clinical Nursing Courses, by Length of Program (continued)

<table>
<thead>
<tr>
<th>Course</th>
<th>Two-Year Programs with College Prerequisites</th>
<th>Two-Year Programs</th>
<th>Three-Year Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80-97 Weeks</td>
<td>65-102 Weeks</td>
<td>80-90 Weeks</td>
</tr>
<tr>
<td>Psychiatric Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>36-100</td>
<td>50-91</td>
<td>30-130</td>
</tr>
<tr>
<td>Mean</td>
<td>67</td>
<td>70</td>
<td>74</td>
</tr>
<tr>
<td>Laboratory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>136-230</td>
<td>76-461</td>
<td>75-336</td>
</tr>
<tr>
<td>Mean</td>
<td>193</td>
<td>168</td>
<td>157</td>
</tr>
<tr>
<td>Management/Leadership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>36-66</td>
<td>36-89</td>
<td>31-64</td>
</tr>
<tr>
<td>Mean</td>
<td>51</td>
<td>45</td>
<td>48</td>
</tr>
<tr>
<td>Laboratory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>168-230</td>
<td>140-360</td>
<td>45-336</td>
</tr>
<tr>
<td>Mean</td>
<td>211</td>
<td>196</td>
<td>191</td>
</tr>
<tr>
<td>Critical Care Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>36-64</td>
<td>50-191</td>
<td>30-180</td>
</tr>
<tr>
<td>Mean</td>
<td>50</td>
<td>97</td>
<td>81</td>
</tr>
<tr>
<td>Laboratory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>216-230</td>
<td>144-480</td>
<td>75-540</td>
</tr>
<tr>
<td>Mean</td>
<td>223</td>
<td>266</td>
<td>217</td>
</tr>
<tr>
<td>Gerontological Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td>30-72</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>51</td>
</tr>
<tr>
<td>Laboratory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td>93-168</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>139</td>
</tr>
<tr>
<td>Community Health Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory Hours</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Only one school of this length of program responded to the question.
Number of Courses and Hours Planned for Each Course

The basic concepts identified by the faculty for the curriculum also influence the structure of the curriculum as the faculty determine: (1) what courses are essential to meeting the concepts and the objectives of the curriculum; (2) how these courses will be developed; and (3) where they will be placed in the curriculum plan.

In asking about the nursing courses included in the curriculum plan, the questionnaire used major subject headings such as fundamentals of nursing, medical-surgical nursing, maternity nursing, and nursing of children, since the major learning experiences are still associated with these clinical areas. It was recognized that some faculties use approaches other than a clinical focus and, thus, different titles for courses. Twelve schools returning the questionnaire used titles that could not be categorized under the clinical headings; e.g., nursing process in health and illness and nursing intervention in nonpredictive health care. It was not possible to include more than a summary of the 75 variant titles reported. A few schools reported the courses by number (nursing 102, 103, etc.). Where the focus of the courses could not be determined, the hours reported by schools were not tabulated.

Some programs included learning experiences in critical care nursing, psychiatric nursing, gerontological nursing, and management of patient care under the subject heading of medical-surgical nursing. Since it was not possible to separate out the hours for these subject areas, the hours were included under medical-surgical nursing.

Table 2 shows the range of hours (theory and laboratory) reported by the schools for each major nursing subject. For almost every course, there is a wide range of hours, regardless of the length of the program. Although a range of hours is shown for the courses maternity nursing, nursing of children, and psychiatric nursing, the mean hours for all three courses are fairly compatible with the length of the program.

In the study, 227 schools reported that content on nutrition, growth and development, pharmacology, trends in nursing, ethical and legal aspects, professional relationships, history of nursing, and diet therapy was integrated into the major nursing courses. The other 132 schools reported teaching one or more of these subjects as separate courses.

The number of hours planned for both theory and laboratory have a direct relationship to the structure of the curriculum and to the student load. The weekly student load for theory and laboratory is shown in Table 3. A question that still needs to be explored by faculties in diploma programs is: what justification do faculties have for planning courses, within the same time frame, with such a wide range of hours in both theory and laboratory?

The study did not and could not determine the manner in which each of the nursing courses was planned or implemented; however, it must be recognized that the teaching strategies used to implement the planned learning experiences in both the classroom and laboratory of each course will influence the way the
### Table 3. Weekly Student Load for Theory and Laboratory

<table>
<thead>
<tr>
<th>Year of Program</th>
<th>Theory</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. Programs Reporting</td>
<td>Range of Hours</td>
</tr>
<tr>
<td>First</td>
<td>185</td>
<td>10-30</td>
</tr>
<tr>
<td>Second</td>
<td>217</td>
<td>5-16</td>
</tr>
<tr>
<td>Third</td>
<td>184</td>
<td>4-17</td>
</tr>
</tbody>
</table>

Source: *Curriculum in Diploma Programs*, p. 16

The total curriculum is structured and implemented.

### Ratio of Theory to Laboratory Hours

The response to the question on the ratios of theory to laboratory hours for courses in the different levels of the curriculum had a very low response.

Considering the range of hours planned by different faculties for the nursing courses, it can be assumed that the ratio of hours between theory and laboratory will also show variation. This proved true in the few reports received, where the ratios ranged from 1:1 to 1:5. While the most common ratios for nursing courses were 1:2 and 1:3 hours, some programs reported such ratios as 1:1.4 or 1:1.5 or 1:2.75 or 1:2.8 for different courses within the program.

Why fractional ratios are used is difficult to understand. They probably reflect a course-by-course allocation of hours and not a predetermined ratio. The variations in lengths of term may also lead to the different ratios for different courses. One can also speculate that those schools that did not report any ratios have not succeeded in establishing them and that the fractional ratios were determined after the course was planned rather than setting predetermined ratios for the nursing courses.

### Ratio of Instructor to Student

The guidelines for determining the ratio of instructor to student usually include the number of students enrolled in the course, the number of instructors employed to teach the course, the resources available and needed to implement the course, the teaching strategies utilized in the classroom and the clinical laboratory and the number of sites used for clinical laboratory.

It is recognized that the ratio of instructor to students must assure safe nursing practice; thus, the overall ratio will vary somewhat from course to course.
However, in our cost-effective economy, the ratio must be realistic. A faculty must determine whether a particular course should continue if ways cannot be found to increase the ratio of students to instructor in both the classroom and clinical laboratory. The majority of programs report that the ratio for laboratory experience in all nursing courses was less than 1:8, and many programs indicate ratios of 1:5, 1:6, and 1:7. How long will we be able to justify such ratios? The ratio in the classroom was higher, with the majority of schools reporting ratios of 1:10-29. On the other side of the coin, we may wish to explore whether a high ratio of 1:70-100-plus in the classroom is effective. Ratios cannot be stated in absolutes because the situation differs from course to course and from school to school; however, the question of what ratio of instructor to students supports optimal learning and is most cost-effective needs careful and immediate study by each faculty.

ELEMENTS IMPACTING ON THE STRUCTURE OF THE CURRICULUM

Students

Students come to diploma programs with a variety of educational backgrounds: recent graduates from high school, transfer students from other RN nursing programs, graduates of licensed practical nursing programs, students with education and experience in allied health fields, as well as those who have earned a college degree in another field or college credits in general education. One hundred-eighty nine programs (77%) reported an average of 54 enrolled students who had earned college credit prior to admission into the diploma program.

Thus, the faculty in each school of nursing is faced with developing a curriculum that will not limit the potential of the student whose knowledge base differs from his fellow students, while at the same time providing each student with the essential knowledge and skills needed to demonstrate the expected competencies upon graduation.

For those students who have had previous experience in another nursing program, the study indicated that faculties utilize a variety of evaluation methods to determine whether the student can be granted advanced placement in the curriculum. The three most commonly used methods were comparison of course descriptions (231 programs), demonstration of clinical competency (137 programs), and faculty-prepared tests (129 programs). If the student qualifies for advanced placement, the instructor of the course in which the student begins the program is certainly faced with a challenge.

Only 87 of the 243 programs reported requiring or offering remedial courses to assist a student in meeting the criteria for admission. Although the reason for not requiring remedial courses was not asked, one may assume that it relates to the backgrounds of students being admitted to the programs as described above.

Forty-six percent of the schools reported that they also admit students on
a part-time basis. What constitutes a program for a part-time student was not determined; however, one can surmise that the part-time student has often completed some or all of the required college courses and is enrolled for only the nursing courses.

Utilization of Other Resources

Colleges/Universities. In the study, 233 programs (96%) reported that some or all of the physical, biological, social, and psychological sciences and general education courses are offered by colleges or universities. The placement of these courses generally follows three different patterns. They may be prerequisite to admission to the nursing program or placed at the beginning of the nursing courses; they may be offered concurrently with the nursing courses only in the first year; or they may be offered in some or all subsequent terms of the program after the first year.

The number of credits for college courses required by diploma programs ranged from 12-49 semester credits, with 61 percent of the schools reporting in the range of 20-34 credits; while the number of required quarter credits ranged from 15-84 credits, with 73 percent of the schools reporting in the range of 25-49 credits (see Table 4).

The number of college credits earned reflects to some extent the kinds of courses included in the curriculum and their purpose. The courses taught by colleges include many subjects, some having a long tradition or becoming common in the diploma curriculum. Some atypical college courses included in the 1980 curriculum plans included separate courses for biochemistry and physiology, history, pharmacology, government, creative thinking, and

<table>
<thead>
<tr>
<th>Range of Semester Credits</th>
<th>Programs Reporting (N = 182)</th>
<th>Range of Quarter Credits</th>
<th>Programs Reporting (N = 48)</th>
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<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percentage</td>
<td>Number</td>
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<tr>
<td>12-14</td>
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<td></td>
<td></td>
<td></td>
<td>60-84</td>
</tr>
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</table>

Source: Curriculum in Diploma Programs, p. 18
philosophy. The common courses reported included anatomy and physiology, microbiology, psychology, sociology, and chemistry. The percentage of schools including English (63%) and growth and development (50%) would indicate that these subjects are becoming essential parts of the curriculum design. Each college course added to the curriculum plan changes its structure and needs to be considered in light of (1) whether a semester or quarter term is designated, (2) the sequential relationship of each course to all courses in the curriculum plan, (3) the student load, and (4) the relationship of the courses to the achievement of the curriculum and level objectives. A question to explore carefully when selecting college courses is whether each particular course contributes to the achievement of the objectives of the curriculum or is just a way to add college credits to a student’s transcript.

Other Cooperating Institutions. A significant finding from the study was that only 30 programs depended on faculty in cooperating institutions to assume responsibility for teaching a major nursing course; the three courses were nursing of children (16 programs), psychiatric nursing (13 programs), and maternity nursing (2 programs). In 1962, 728 programs reported that cooperating institutions offered psychiatric nursing to 659 programs, nursing of children to 286 programs, and maternity nursing to 37 programs. The assumption of responsibility by the schools for these courses is truly a major accomplishment of faculties since 1962.

Just as the relationship with a college affects the structure of the curriculum plan, depending on outside institutions to provide a major course in nursing will also affect the structure of certain years or levels of the curriculum plan.

Use of Clinical Resources for Implementing the Curriculum. In addition to the major clinical resources utilized to implement the curriculum, faculties identified the following clinical resources: operating room, intensive care units, emergency room, rehabilitation, ambulatory clinics, nursing homes, and extended care units. Each of these resources, whether located in the primary hospital or in an outside agency, affects the structure of the respective course and thus the curriculum.

Communications between Faculty and Personnel in Agencies or Institutions. The faculty establishes a system of communication with two groups in order to plan the implementation of the curriculum. The purposes for the system vary according to the relationship between the school and institution or agencies and the designated personnel involved. For example, the administrative personnel meet primarily to establish policies, share objectives, determine use of clinical resources, and establish plans for implementing the curriculum and learning experiences included in courses. The faculty in the majority of the schools and nursing service personnel participate actively in each of the above activities, with the exception of establishing policies. The frequency of the meetings varies from once a year to more than once a quarter or semester according to the purpose of the meeting and the group involved.

Three purposes of these meetings were consistently reported: sharing objectives, discussing course content and laboratory experiences, and establishing
CONCLUSION

The challenge of sound curriculum development and its implementation rests with the faculty in each diploma program. For each of these activities, a faculty member will be assisted by having a comprehensive understanding of the current structural components and curriculum practices as reported in the study, the characteristics of diploma programs, and the competencies of diploma graduates. With these basic sources of information, a faculty can proceed to develop a definitive plan for evaluating the essential components of the curriculum and those elements that impact on its structure.
Utilization of Structural Components in Curriculum Design

Sister Miriam Kevin Phillips, RN, MEd
Associate Director
St. Vincent's Hospital School of Nursing
New York, NY

A structure is defined as something definite or fixed, a pattern of organization made up of interdependent elements or parts. In engineering, a delicate mathematical balance is maintained among the various elements or parts. Curriculum structures are also planned with certain mathematical characteristics: length in years, number of terms, number of courses, ratios of theory to clinical, ratios of faculty to students, etc. Just as structural defects in engineering have been known to cause collapse of a design or to result in malfunction, so the design of a curriculum, resting within a defective structural framework, may produce similar results.

Like today’s architects, curriculum architects are constrained by a cost-conscious society. Ingenuity, creativity, rugged individualism may have to be sacrificed to functional pragmatism. Diploma educators have been characterized as “adhering to the principle of self-determination.” We can usually argue that the structure of our own unique curriculum is defensible theoretically and pedagogically, but can we defend it in terms of cost, both human and material? Can we defend it to institutions of higher learning to which our students may apply for upward educational mobility? Can we defend it to our students when it may be necessary for them to transfer horizontally from one diploma school to another only to be told “the plan of your program is so different it is hard to see how it would fit into Our Curriculum?” Perhaps the

time has come to ask ourselves if we have a right to maintain our aberrant structures?

I do not wish to minimize the psychological drain that change implies, but we cannot remain frozen in time and space. Like other educational institutions, we may have to face the fact that our structures may no longer be relevant. As we contemplate what is to be done, let us remember that a cost-effective curriculum is one in which effective patterns have one common element, the capacity to change and grow without rebuilding the entire structure." The "buzz" word to keep in mind is flexibility.

STRUCTURAL COMPONENTS

Length of Program

How long should the program be in terms of years? The answer lies in curriculum accountability: what is the most effective means for accomplishing each stated objective, in the shortest time possible? Novello states; "The structure of all nursing curriculums whether technical or professional should be based on a common and agreed upon definition of nursing." One thing we do agree upon: nursing is a practice discipline. To quote Bevis, "In a practice discipline the objectives do not reflect so much what the graduate will know as what the graduate will be able to do." Therefore, "attainment rather than time-serving" should be the principle that guides our decision regarding length of program. In order to achieve this we must:

- make explicit statements about the outcomes the student must achieve in order to complete the program;
- employ learning experiences specifically designed to foster those desired outcomes; and
- use multiple procedures for assessing student attainment of outcomes; i.e., tests, observation, simulation, evaluation, and ultimately validation by experts (state board exam).

In other words, the student must achieve the competencies in order to graduate. In the past we used a three-year calendar. The term "three-year diploma school" has carried over even to this day, despite the fact that many diploma schools have converted to a two-year calendar. We must determine the minimum amount of time that the average student will need to be able to meet the curriculum objectives and demonstrate the desired competencies. That should dictate the norm for length of program. Remembering that our

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buzz word is flexibility, we must structure the curriculum in such a way that students who need a longer time can have it.

Students who must for one reason or another exit from the program temporarily should not be required to go on hold indefinitely before the opportunity presents itself to reenter. The bottom line is, we are not two- or three-year programs, but programs structured to outcomes. These outcomes require the student to demonstrate proficiency in two disciplines, theoretical knowledge and skill attainment. Some students get it together quickly; some students get it, but not together; and some students never get it, despite an eternity of time.

Structural Design

In my review of the literature, I found very little that deals with the nuts and bolts of curriculum structure. It is trendy to write about conceptual framework, curricular themes, outcomes or competencies, process and evaluation. Only cursory mention is made of structure, outside of stating number and placement of courses, number of levels, length in years, and the academic calendar plan. Surprisingly, no one offers a rationale as to why particular mathematical units were selected or chosen. One can surmise reasons but there is little empirical data to back up the assumptions.

One thing we do know is that the “traditional concept of education is that students must learn sequentially as defined by the master of the discipline.”

While diploma educators have not had to deal with the idiosyncratic masters of multidisciplines, such as exist within a college, they have had to deal with structures perpetuated by self-serving, provincial interests of certain faculty. Therefore, as we look at the data supplied in *Curriculum in Diploma Programs* we see calendar plans that range from 65 to 144 weeks, and that mix and match traditional time frames with a category known as “other.” Of the total of 219 programs responding to this question, “other” appears 127 times.

Courses which must be fitted into accordion-pleated time frames, or stretched beyond the end of a traditional term, need to be reevaluated since these configurations may not hold up under scrutiny. The traditional structures of academic time are semesters, trimesters, quarters, and blocks, all of which are currently in vogue in diploma programs. There are, of course, advantages and disadvantages to each and no one will fit every program. The choice, however, should be defensible. Dressel states: “Careers of students and faculty are jeopardized by non-traditional structures and by programs that deviate from traditional patterns.”

The advantages and disadvantages of the common patterns are illustrated in Figure 1. This is not an exhaustive list of possibilities. One more pattern that is frequently employed in diploma schools is the variable length terms such as

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### SEMESTERS: Length 15-20 Weeks; Number: 2 per Academic Year

**Advantages**
- Most common in academe
- Provides most hours per term
- Permits thorough study of subjects
- Option to build in review and examination week at end of term
- Common vacation periods for students and faculty
- Provides opportunities for summer employment and meets needs of family
- Minimizes number of courses faculty must prepare, and number of times taught in each academic year
- Reduces administrative time for registration, billing, scheduling, testing, etc.

**Disadvantages**
- Allows little flexibility in schedule
- Limits times of entrance and exit
- Forces courses into a fixed time frame regardless of need or purpose, and may unnecessarily stretch subjects that could be covered in a shorter period of time
- Limits number of courses students may take each year, needlessly extending time of graduation
- May result in underutilization of physical facilities
- Not all students and faculty need long summer vacations
- Learning and skill are negatively affected by long hiatus
- Students may require a period of reentry following months away from the learning process

### TRIMESTERS: Length: 15 Weeks; Number: 3 per Calendar Year

**Advantages**
- Efficient use of facilities, time, and faculty
- No long summer hiatus, resulting in continuity of learning and less loss of acquired skills
- Allows for acceleration of program without necessarily resulting in superficiality
- Permits flexibility: students and faculty can take a term off
- Easily adapted from semester calendar
- Provides long summer vacation for faculty and students who need it
- Depending on personnel policies, enables faculty to earn additional money
- Reduces attrition, especially if most courses are offered every 15 weeks
- Meets needs of older students to finish in shorter period of time
- More economical in cost and time for students who transfer science and general education courses; usually can complete in 2 years

**Disadvantages**
- Limits time for faculty research, course preparation, vacation options
- Entails more administrative time for bookkeeping—registration, billing, scheduling, testing, etc.
- Makes transfer of students from schools on semester plans more difficult
- Fatigue level for both students and faculty is high
- Psychological drain on faculty who may have to teach same course 3 times a year
- Requires more constant year-round enrollment to be economical
TRIMESTERS (continued)

**Advantages**

- Allows academically weak students to carry lighter course load without extending finishing date beyond 3-4 years.
- Permits various patterns to fit many individual needs, e.g., $2, 2 + 1, 3, 3 + 1, 4$.

**Disadvantages**

- Inefficient use of time (40 weeks per year vs. 45 weeks in trimesters).
- Twice as much administrative bookkeeping as semester calendar.
- Requires of faculty more preparation, testing, grading, evaluating, and teaching.
- May result in superficial courses.
- Keeps students and faculty on an "academic treadmill".
- Restricts faculty use of time.
- Absenteeism becomes more serious.
- May not allow enough time for students to meet clinical laboratory objectives.

QUARTERS: Length: 10 Weeks; Number: 4 per Calendar Year

**Advantages**

- Students can take greater number and variety of courses.
- Allows concentration on smaller numbers of courses each term.
- Offers possibility of acceleration.
- Allows students and faculty flexibility in choosing attendance and vacation patterns.
- Offers opportunity for more frequent "breaks".
- Allows for courses of different lengths.

**Disadvantages**

- Inefficient use of time (40 weeks per year vs. 45 weeks in trimesters).
- Twice as much administrative bookkeeping as semester calendar.
- Requires of faculty more preparation, testing, grading, evaluating, and teaching.
- May result in superficial courses.
- Keeps students and faculty on an "academic treadmill".
- Restricts faculty use of time.
- Absenteeism becomes more serious.
- May not allow enough time for students to meet clinical laboratory objectives.

BLOCK CALENDAR: Length and Number Variable

**Advantages**

- Students study, in depth, one course at a time, resulting in less fragmentation.
- Clinical laboratory experiences can be planned and correlated more easily.
- Daily schedules left to discretion of faculty members.
- Students usually evaluate highly.
- Faculty need only prepare intensively for one course.
- Acceleration is possible.
- Faculty feel they accomplish more.
- Attendance and teaching patterns can be more flexible.

**Disadvantages**

- More classrooms are necessary.
- Faculty required to teach same course 4 times a year or more.
- High level of faculty fatigue.
- Intensive format not suited to all courses.
- More administrative bookkeeping.
- Emphasis on one clinical entity may result.
two 17-week semesters and one 8-week summer session. It becomes difficult to identify the unique strengths and weaknesses of the variable length terms. It is better left to the faculty whose schools employ this type of configuration. Something to keep in mind, however, is that educators are often dubious of credentials reflecting marked departures from traditional educational patterns. What does this say to us in terms of our graduates seeking admission into the mainstream of general education?

Some of the other factors that need to be considered in selecting a calendar plan are:

- time patterns of institutions offering support courses
- the accepted number of clock hours, credits, or unit ratio policies of individual state boards of nursing
- availability of clinical facilities in cooperating agencies
- courses with both classroom and laboratory hours vs. classroom courses only

Ultimately we must ask ourselves in what way does our curriculum structure relate to or interface with concomitant curriculum structures in other nursing education programs?

**Number and Placement of Courses.** Number and placement of courses are not as important as implementation. Nurse educators do not view their curricula as fragmented, but unfortunately the logic of our curriculum plan often escapes the students. Reinforcement is viewed by students as duplication, and in-depth treatment at higher levels is viewed as similar to orientation to the same content in the introductory year. Students do not see various aspects as part of a whole; they view them as separate, unrelated courses. To us the sequential arrangement allows continuity, reinforcement, and repetition. We introduce essential learnings in the beginning and then follow up by repeated exposure in greater depth and breadth over a period of time. The organization of courses should provide the greatest potential for fulfilling the conceptual framework.

**Levels within the Structure.** The sequential arrangement of courses should produce demarcated lines of progression. Within curricular structures these lines are termed levels. To be functional, vertical sequencing should be based on past learning. Horizontal placement should indicate progressive complexity. The number of levels may vary, but the goal remains the educational maturation of the student. There is no set pattern for length of a level. One level may include two time periods or may include as many as six. "Levels are points where content and learning activities change significantly." Students climb upward by levels to a point where they are able to demonstrate ultimate achievement of the terminal objectives of the curriculum.

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**Weekly/Hourly Load.** Engineers carefully measure the weight placed upon a structure, not only total weight but distribution of weight on each level. Educators must be similarly careful of uneven distribution and "overload."

Placement of courses within the time frame of the curriculum should be carefully balanced, allowing reasonable time for study, preparation, and planning. The time requirements should be predictable so that throughout the program the student has opportunities for work, family, and recreation.

The most difficult courses need to be counterbalanced by courses of lesser complexity, since what counts is not only the number of hours but the intensity of what those hours represent in terms of intellectual application.

Absolute rigidity is not necessarily desirable. Our curriculum structures should not be the result of compulsive mathematical equations; they should strive for patterns which indicate that consideration has been given to the learner who must inhabit the structure for whatever period of time it takes to achieve the goal.

**Ratio of Theory to Laboratory Hours.** While the study on *Curriculum in Diploma Programs* shows a noteworthy consistency in weekly/hourly load, the same consistency has not been demonstrated in ratio of theory to laboratory hours. The variety of ranges reported by individual programs (p. 29) indicates that predetermination of these ratios is still an elusive concept. Having identified that diploma education is competency based, and that its educational design emphasizes both attainment of knowledge and application of that knowledge by demonstrable skills, the next question to ask is how much time must be allocated to each aspect?

If our curriculum structure progresses from simple to complex and if our nursing practice is resting upon a scientific, psychosocial, ethical foundation, then our ratio of theory to laboratory hours in the first level will be reflected in a higher, or at least equal, proportion of theory to clinical. As the student progresses upward in the structure, acquiring more knowledge, our curriculum blueprint should indicate not only progression but increased complexity. Then more time will be needed to practice and ultimately demonstrate mastery and application in the clinical laboratory. It therefore seems logical to have our clinical laboratory hours increase as the student progresses. The increase in time should not be based on the notion that "more is better" but rather upon asking ourselves, "How much time should the average student take to meet the objectives of a particular course?" The collective experience of the faculty should enable them to come up with a formula which then becomes a predetermined ratio. In other words, plan the time in proportion to the objectives, allowing for orientation, implementation, practice, and evaluation.

My personal bias is that we cannot use the norm employed by general education. Diploma education has a unique strength and that is clinical competency. Only diploma educators can decide on a ratio that best suits our purposes. Diploma educators are comfortable in the clinical area. They value the experiential learning that takes place there. The danger we have to avoid is equating hours spent in the clinical laboratory with meeting educational objec-
tives. The knowledge explosion continues to mushroom, computer technology is pushing its way into our classrooms, time is money, and cost-effectiveness is the wave of the future. Every moment in our already crowded curriculum is valuable. It must be measured in terms of productivity. We do not have the luxury of being in the classroom or in the clinical laboratory without a purpose. That purpose has to be measured, weighed, and balanced; then we can assign a ratio of time to each aspect of curriculum development, and then our ratios will reflect a carefully thought-out plan of implementation. In other words, we will have predetermined our direction.

STRUCTURAL IMPACT ON HUMAN RESOURCES

One upon a time in “academe,” educators lived in a rarified atmosphere, far above the mundane world of dollars and cents. Efficient use of human resources, both faculty and staff, were viewed as secondary to the implementation of the curriculum. If more faculty and support staff were needed we could usually justify this need through a razzle-dazzle presentation replete with reference to philosophy, objectives, cognitive and affective domains, quality, outcomes, ideal learning environment, time and space for intellectual growth, and so on. If that failed we could always fall back on “The League requires...” or “Our NLN accreditation is in jeopardy!”

Perhaps you are saying, “That may be true in colleges and universities, but it was not true in hospital-based schools. We have always had to be concerned with costs, budgets, and fiscal accountability.” If so, then why have we spawned faculty who are so specialized that they feel insecure when asked to move to another level or teach another clinical specialty, without months of advance notice to prepare for the role? It sounds like the baccalaureate graduate entering nursing service. The reason often given for the reluctance to change is not that the faculty member is insecure, but that he or she has spent years becoming specialized in a certain field and the student has a right to this expertise. Students in all basic nursing programs have a right to be prepared for entry level practice. Associate degree and baccalaureate faculty have learned this lesson. We may put them down for shortchanging their students by flitting from one course or discipline to another, but they were forced to operate efficiently and economically in a hostile environment, since they had to justify their departmental costs within the total university structure. There could be no razzle-dazzle because they were talking to other academicians.

If we continue to build curricular structures with short, highly specialized courses, with time frames of uneven distribution, and if we don’t demand that faculty meet the needs of a changing student population, the school, and the parent institution, we are going to find ourselves in trouble.

Most of us in nursing education administration have not managed our human resources efficiently or economically. Our answer to uneven faculty workload was usually to request more faculty. We tried to be all things to all vested interest groups within the hospital. We added on all kinds of exper-
iences, short courses, and clinical laboratory hours to satisfy surgeons who wanted recruits for the operating room and nursing service who pressured for exposure to neonatal intensive care units, despite the fact that many of these experiences can in no way be classified, in today's complex health care system, as entry level.

As we rearranged our curricular structures to make room for all of this, as well as incorporate general education courses, we were reluctant to give up our unique low student/faculty ratios, so we continued to need more faculty and more support personnel. Between 1960 and 1980, as our hospital-based programs became more educationally oriented, we enjoyed a proliferation of faculty and staff unequaled by nursing programs in higher education. Our enrollments went down, theirs went up; they employed faculty as generalists, we continued to indulge specialization; their student/faculty ratios began to climb, ours remained constant or low. They employed part-time faculty; we looked with disfavor on that practice. No wonder many of our schools priced themselves out of business. We may say that the product of their system reflects the poor quality which these practices engender.

We have to face the fact that our schools are departments in a highly labor-intensive industry, where the use of human resources in a cost-effective manner is crucial for survival. If we want to maintain educational "quality assurance" in a tight economic climate, we will have to work at it. Certainly, there will be an effect on faculty and students. Shrinkage of a system is painful and may not always yield optimum results. We have to be ready to sacrifice some of the "rugged individualism" enjoyed by diploma schools. The architecture of our structures may not be as unique in the future. Faculty in diploma schools will have to be ready to go where the action is, respond to the needs of a fluid student body, and make greater use of the principles and concepts common to nursing practice rather than be frozen into single specialty units.

Greater cooperation and sharing among faculty will be needed. Clinical specialists will need to reach out to their colleagues who are being asked to take on new roles. Departmental and level faculty will need to rid themselves of provincial attitudes in order to work for the common good. Faculty who have luxuriated in areas where student/faculty ratios have historically been low will have to assume an equal share of responsibility. Seniority will carry greater responsibility, not less. New faculty will need the stability, the clinical expertise, and the teaching methodologies developed through the years. Faculty must find ways to conserve their energies and resources. They will have to give up their addiction to proliferating paper work. On-the-job productivity will become more valuable. Faculty will have to find ways to make technology work for them.

We teach our students that not all patients require the same level of care, yet we operate in education in such a manner that we often give the impression that all student regardless of age, intellectual ability, or previous experience must be given equal time. Students are unique just as patients are. When short
staffed, we soon learn to organize, prioritize, and delegate. The quantity of what we write about students is not as important as the quality. The purpose of the course is to have students meet the objectives. When the objective has been mastered, why do we subject ourselves and the students to repetitive exercises of writing and correcting?

I do not wish to imply that I do not value our low student/faculty ratio. I value it highly, both in the classroom and in the clinical laboratory. I'm just realistic enough to know we can no longer afford it. If our curriculum structure perpetuates uneven distribution of faculty, then that structure has to be changed. If faculty cannot adapt to a climate where productivity, efficiency, and flexibility is demanded, then they will find little competition for their services. If nursing education administrators cannot justify in concrete terms (measured in dollars and cents) what the school of nursing is contributing to the quality of care and the furthering of the institution, then requests to increase costs will be denied.

The effect on our students will be less individualized attention. They will have to be prepared to assume more responsibility for their own learning. They will have to accept that they are responsible legally and ethically to acquire the knowledge and skills to function in the clinical setting. They will have to become less dependent on the instructor.

Yes, I think we should strive to maintain our climate of individualized attention, but I think we have to work to do so. We have to take the time to study the problem, evaluate our options, make choices, and then move aggressively. We can learn from our colleagues in associate and baccalaureate education. We can have the best of two worlds if we use ingenuity, creativity, and good common sense. I think the unique climate of our schools is worth saving and worth working for.

RELATIONSHIPS OF STRUCTURE TO OUTSIDE RESOURCES

Cooperating Educational Institutions

The curriculum should be developed around a regular academic year, especially if the diploma school has a cooperative arrangement with a college. Courses offered by both institutions should begin and end within the same time frame. Failure to take this into account in curriculum planning only reinforces in the student's mind the impression that college courses are superfluous "tack-ons." Students are frustrated when they must meet different time schedules at two institutions. Their hostility will usually be directed toward the college and expressed in the form of high absenteeism and negative attitudes.

Our students have deliberately chosen a hospital-based program over a college; therefore, their primary objective is to meet the demands and requirements of the diploma school. If faculty truly believe that every course within the curriculum design is essential to achieving the objectives, then they must reinforce that belief by selecting a time frame comparable in each institution.
Clinical Resources

Hospital admissions, census, and case mix fluctuate, and certain clinical experiences peak at different times of the year. It would be advantageous to plan our curriculum so as to capitalize on these variables. However, correlation of theory to clinical practice is becoming increasingly more difficult and will become more so in the future, as we move into the prospective payment system. We do not have the luxury of the man-made controlled laboratory of the science courses, even though our purpose for being in the clinical laboratory is essentially the same. We may be frustrated in the search for suitable experiences for our students in maternal-child, psychiatry, and ambulatory care and even in general surgery as our hospitals become more and more specialized. There is competition with other types of nursing programs for the use of outside agencies. To a large extent we cannot control these factors, but they must be taken into consideration as we plan our curriculum. It can no longer be left to chance that these experiences will be available when we need them. Placement of courses should take into consideration the optimum availability of clinical learning experiences. To do this we may have to study patient demographics, classification systems, and admission profiles.

Community

Curriculum designs should be current and relevant, both to the changing health needs of society as a whole and to the specific health needs of the local community in which the school is located in particular. The demand to provide nursing personnel may influence the number of admitting and exiting points in the structure. Hiring opportunities for students may be more available during certain months of the year. Regional differences may require emphasis on certain clinical specialties. Regional weather patterns may have an effect on placement, especially if students must travel to outside agencies. There are many other implications, but the point is that curriculum planning can no longer be an in-house affair. It must take into consideration the broad view of meeting the needs of the community, in addition to meeting the needs of the learner.

State Requirements

Among the many variables that must be considered in curriculum planning are individual state regulations. In general, state requirements tend to be broader and less restrictive than the League criteria for accreditation. The recent passage by the National Council of State Boards of The Model Nursing Practice Act in 1982 and the accompanying Model Nursing Rules and Regulations in 1983 suggests that some degree of standardization is desirable. Contained in the rules and regulations is a section dealing with nursing education. Until some degree of uniformity is reached, schools will have to continue to pay attention to their own state's unique requirements.

If a state dictates specific courses, has an established number of theory to
clinical laboratory hours, mandates student/faculty ratios or student weekly/hourly loads, then these regulations cannot be ignored.

Schools of nursing, regardless of the certificate granted upon completion of the program, all have the same responsibility to prepare their graduates to sit for the licensing examination. Success on the examination constitutes the rite of passage into the profession of nursing. Therefore, in planning the academic calendar consideration should be given to finishing dates which allow students to file for and take the examination as soon as possible.

**COST EFFECTIVENESS**

Sprinkled throughout this entire paper are allusions to cost. No architect undertakes to build a structure in today's society without carefully analyzing cost, and no educator can construct a curriculum without figuring what it will cost. Our students are concerned about what it will cost in time and money to pursue a nursing career. The parent institution wonders if the cost of the school is worthwhile and if it will see a return on its investment, especially in recruitment for nursing service. The consumer wonders if part of his/her health care dollar should be allocated toward educating health professionals, when in fact the quality of care rendered may be deteriorating.

Our schools operate within the health care delivery system, a system racked with runaway inflation, a system targeted by the federal government to become fiscally responsible or face rigid control. The health care industry is on the threshold of a revolutionary period in fiscal accountability and we are caught in the middle. It will be an interesting and challenging time. In addition to Bloom's Taxonomy, The Criteria for the Evaluation of Diploma Programs in Nursing, and Toward Excellence in Nursing Education, we will need a calculator to get us through our curriculum committee meetings.

**SUMMARY**

In conclusion, I would like to quote from Curriculum Building in Nursing by Em Olivia Bevis:

Curriculum vivification means to bring to life the individual courses of the curriculum—to take the “many” elements of curriculum and combine them into one living, growing, changing group of learning activities that are relevant to the health needs of society and appropriate to the students and the school. Curriculum vivification is the creative element of the process of curriculum building. It is the creation of one holistic new curriculum from the many parts; it is the translation of the substance of the framework into functional forms.

Like all creation, constructing a curriculum is a challenge. We are never quite sure if we have fashioned a structure of beauty or a monstrosity. Only time and use will reveal the answer.

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Reflection of the Characteristics of Diploma Programs and Competencies of the Graduates in the Curriculum

Barbara B. Hooker, RN, MS
Associate Director
New England Deaconess Hospital School of Nursing
Boston, MA

All who have had to prepare papers for publication will understand the need for first setting the ambiance necessary to the structure and content of the paper. When given a title to address, as in this instance, I usually begin by defining the terms in the title. Of the several definitions of “reflection,” I chose to use “opinion.” The other words were easy. Characteristics of Diploma Education in Nursing was published by the Council of Diploma Programs, National League for Nursing, in 1978 (the characteristics total 14 in number). Competencies of Graduates of Nursing Programs, too, was published by NLN in 1982, as established by a special NLN task force. The last term in the title, “curriculum” is defined by CDP as “the course offerings that make up the program of study.” The title of my presentation now reads, in my interpretation: “My opinion of the 14 characteristics of the diploma program and the minimal expectations of the new graduate who has completed the course offerings that make up the program of study.”

My reflections on the diploma program are based on 22 years of direct association and 11 years of indirect association with diploma education. My own baccalaureate program was five calendar years long and, in brief, consisted of:

1st year Sept–June campus (biology, psychology, social sciences)
June–August hospital (clinical nursing courses)

2nd year same as first
3rd year Sept-July hospital (clinical nursing)
4th year Sept-July hospital (clinical nursing)
5th year Sept-Dec. community health nursing
Jan-June campus (psychology, social sciences, electives)

My hospital experience was comparable to the diploma program education of the fifties. At that time the diploma program included covering for a 24-hour day, seven days a week, eleven months of the year, 1095 days, by both students and faculty. It was a service-oriented approach, and the administrative faculty who scheduled students on clinical rotation had a merry job to “cover” the days, evenings, nights, and weekends needed by nursing service. This approach had its bad points for diploma education, i.e.:

- student learning environment not a priority. The student was constantly reminded, “Don’t chew gum”; “Sit up straight”; “Be attentive”; “Stand up when the doctor arrives.”
- task orientation
- nonquestioning attitude expected
- subservience to medical staff
- block classes, systems-oriented content taught by basically prepared nurses with such titles as supervisor, head nurse, unit instructor, or science instructor or by doctors who probably taught 75 percent of the content, all by lecture
- examinations—daily quizzes, unit exams, midterms, final comprehensives
- evaluations—“progress reports completed by the head nurse or supervisor.”

As another title goes today, “We’ve Come a Long Way, Baby.”
The length of program today varies from a two-year academic/calendar to a three-year academic/calendar. This is probably a weakness of diploma programs. In trying to accommodate professional demands, educational challenges, economic pressures, and the self-serving attitudes of students and faculty alike, we have obscured the conventional description of time spent in a diploma program. We have to say “You will want to check this, because…” to students, parents, or colleagues who ask us about the length of diploma education.

The environment is student oriented today—one might say student dominated for some schools: the student has learning modules, learning
centers, library-assisted study, discussions, seminars, student-conducted conferences.

Task orientation is still present for many of us, but has expanded in relation to the concept of patient understanding, patient learning needs, and family needs.

The questioning student is very much on the scene today; this student wants not only to know how but why and why not and ultimately keeps faculty well motivated for the learning environment.

Subservience to the medical staff has been turning around to more specifically be the questioner, the collaborator, the teacher, the team member. This change is evident in both the nurse and the doctor. I do not hold with the derogatory descriptions of doctors as demanding, critical, and pushing people aside, as depicted on TV shows and by some of our professional critics. Surely, one can remember incidents when doctors were rude to nurses, but one can also remember when nurses were rude to the doctors. I hear today that under the guise of "assertive behavior" teachers are rude to students (and vice versa), parents are rude to children (and vice versa), and so on. I'm frankly appalled by the rudeness and insensitivity demonstrated by society, in general, in all walks of life. It is not limited to doctor-nurse relationships.

Block classes, systems-oriented content, and faculty prepared at the basic level are things of the past for the most part. I hear of faculty trying the block class model today in order to "orient the student to course content so s/he has something to correlate in the clinical area." This is more evident in such courses as maternal-child health or medical-surgical/psychiatric integration where clinical rotations cannot run concurrently with course content. An instructor gave me a cartoon during a major curriculum revision we undertook in 1972. It reads, "We're finally back to the curriculum we revised twenty years ago." In revising our curricula, one major improvement I think all of us have undertaken in diploma education is in teaching methods; e.g., lectures, discussions, seminars, learning modules/packets, and AV guides may be all part of one course today.

Another gain certainly has been in the educational preparation of faculty. The diploma programs today have a master's- and baccalaureate-prepared faculty whose responsibility is to teach in the classroom and clinical laboratory. For the past three years, all faculty in our school have had master's degrees. Two faculty members have completed study toward a doctorate and have yet to complete dissertations. Three of our support staff have a master's degree: the admissions officer, the coordinator of admissions and financial aid, and the resident director. A fourth, the media specialist, is currently matriculating for his master's degree. Ten years ago, the faculty with master's degrees was 63.6 percent in our program at a time when the national figure was 37 percent.

And, last but not least, the student in a diploma program today may not be admitted directly from high school, but may be a commuter, usually has to work to finance an education, and does chew gum, drink coffee, and, we hope, is free of substance abuse.
CHARACTERISTICS, 1978 AND TODAY

Let's look at the characteristics as adopted in 1978 in terms of diploma programs today. I wish I had space to respond to each one, but I’ll discuss only a few characteristics.

Characteristic #1: The school is in the unique position of offering a readily accessible clinical laboratory that promotes the student’s understanding of the hospital climate and resources and the interrelation of other health disciplines.

Patient census in hospitals today is being challenged by the prospective reimbursement payment for hospital costs, known as DRGs to most of you and as Chapter 372 in Massachusetts. The name of the game is (1) not to keep the patient hospitalized too long, (2) admit patients to ambulatory service departments when possible, and (3) have a cooperative utilization of equipment or "centers" within the hospital complex which will qualify as the givers of care for certain diagnoses; e.g., four hospitals in Boston have recently submitted a formal application for a shared program, i.e., medical, nursing, and harvesting teams for liver transplantation. The readily accessible clinical laboratory is becoming difficult for all nursing education programs under these circumstances. With patient census down and with institutional specialty rising, the variety of patients found in the clinical laboratory may become limited.

Characteristic #3: The school may enter into cooperative relations with colleges or universities for educational courses and/or services. The school may also enter into cooperative relationships with health care institutions and agencies in order to provide learning experiences for students.

This one alone may have caused the greatest variation in what a diploma program is today. Our cooperative relations with colleges have constituted long-range changes in the diploma program to the point of complete conversion, in some instances, to an AD or a baccalaureate program. On this issue, diploma educators today, in trying to ease educational mobility for graduates, may have assigned themselves the task of defending school philosophy in light of curriculum implementation to the public and the trustees. The diploma graduate cannot be all things to nursing as we once thought. We must decide, through school level and curriculum objectives, just who our graduate is.

Characteristic #5: The philosophy and objectives of the school give consideration to the personal and professional development of the students and serve as the basis for the development of the curriculum.

This characteristic is the basis for another assessment of the curriculum plan. Level and curriculum objectives should be the logical follow-through

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from the school's philosophy and objectives. During program evaluation sessions, our faculty studies the implementation and evaluation of the curriculum. One of the tools we use is our format of school, level, curriculum, and course objectives. During the evaluation, we look for objectives that are not clear, or are stated in inoperative terminology; no longer pertinent; overlapping; not expressed in behavioral terms; or incapable of being met by the student by the end of a course.

Terminology is such an important aspect of writing objectives. During my tenure as an NLN accreditation visitor and as a member of the Board of Review, I often struggled to understand where a faculty was moving from its expression of the objectives. My director, knowing my penchant for stating things in terms that even I can understand, recently sent a list of doublespeak words to me. The doublespeak "terminal living" translates as "dying," and "inoperative statement" translates as "lie." A co-author of the list writes: "What this list demonstrates is that doublespeak is infectious and we need to choose our words carefully so that the language we use really communicates and does not merely pretend to communicate." The point is that if objectives are to be met, they must be expressed in understandable terms. The "meettee" has to know what it is that needs to be met.

Characteristic #10: Students are given the opportunity to demonstrate the knowledge and skills acquired in previous educational experiences for course exemption or advanced placement in the educational program

Characteristic 10 is going to determine a diploma program's ability to survive. Faculty and administration must recognize the nature of pedagogy in planning and implementing the curriculum. Adjustments have to be made by a faculty when assisting a group of three students of the respective ages of 18, 26, and 32, one of whom has a BS in social work. The objectives of the course do not have to change, but the approach the instructor takes will determine the motivation with which each of these students will work toward the objectives. I feel this, too, is a weakness in diploma education. We give it lip service, but our actions belie our spoutings.

Another aspect of this characteristic is the need to have realistic admission criteria for advanced placement in the diploma program today. This includes consideration of alternatives for a student who has the science background, but hesitates to spend 6-8 hours per week for a whole year taking only the foundations of nursing courses.

Characteristic #11: The faculty, utilizing trends and changes in education and health care, plan, organize, implement, and evaluate the curriculum within the framework of the philosophy, objectives, and policies of the school of nursing.

3 William Lutz, Examples prepared by Chair of Committee on Public Doublespeak, National Council of Teachers of English, 1111 Kenyon Road, Urbana, IL 61801.
My major concern here is that diploma school educators tend to be just nursing educators. Curriculum planning may not be based on trends and changes in education and health care, but on the expressed opinion of the nurse instructor who is teaching the course. Faculty should pursue all educational trends and health care changes before contemplating a curriculum revision.

_Characteristic #12: The curriculum is designed to develop the knowledge and skills essential for beginning practice as a registered nurse in acute, intermediate, long-term, and ambulatory health care facilities._

This characteristic is a strength of the diploma program and must be retained. A recent study of graduates who were newly licensed in February and July 1982 was done for our school on request and for a fee by the Division of Research, NLN Data Service. Table 1 shows a few descriptors from the report and the corresponding percentages of responses from graduates of all programs in Massachusetts and nationally. As you can see, the majority of all graduates are working in hospitals, where our graduate has the most confidence. Therefore, the curriculum of the diploma school of nursing must retain its strong characteristics in order to retain its integrity in producing graduates with theoretical and clinical expertise in a structured setting of acute and chronic care facilities.

The last characteristic I'd like to make specific reference to is #14.

_Early and substantial patient care experiences are provided in the hospital and in a variety of community agencies which serve to foster within the student a strong identification with nursing._

It is the word "early" that concerns me as I review the curriculum plans of diploma schools. In some programs, early means the third term of the first year while, in another model, a program might stipulate that all sciences must be completed in the first year at any accredited institution before the student may enter the nursing curriculum. Another trend seems to dilute the nursing in the first term or semester to nonclinical content so that the student has "more time to study the sciences." Other faculty have met the challenge to retain early patient care experiences, by distributing the various college courses among all three levels, rather than containing them in the first year. If we are to retain a strong identification with nursing in our diploma programs, it is my belief that we must also retain a strong component of nursing principles and practice in the critical first semester or term of the program. It may take revision and innovation to achieve this goal, but it can and should be done.

**COMPETENCIES OF OUR GRADUATES**

The competencies of the graduates of a diploma program continue to be acknowledged by the employer, the consumer, and the graduate. Let me quote

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### Table 1. Report on Graduates Newly Licensed in February and July 1982

<table>
<thead>
<tr>
<th>DESCRIPTOR</th>
<th>PERCENTAGES FOR SCHOOLS IN MASSACHUSETTS</th>
<th>PERCENTAGES FOR SCHOOLS IN ALL PARTICIPATING STATES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baccalaureate</td>
<td>Associate Degree</td>
</tr>
<tr>
<td>Adequacy of educational preparation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate</td>
<td>75.3</td>
<td>76.3</td>
</tr>
<tr>
<td>Inadequate</td>
<td>24.7</td>
<td>23.7</td>
</tr>
<tr>
<td>Adequacy of clinical preparation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequate</td>
<td>55.8</td>
<td>62.9</td>
</tr>
<tr>
<td>Inadequate</td>
<td>44.2</td>
<td>37.1</td>
</tr>
<tr>
<td>Main reason not employed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No jobs</td>
<td>20.0</td>
<td>12.4</td>
</tr>
<tr>
<td>Continuing education</td>
<td>0.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Family responsibility</td>
<td>50.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Have relocated</td>
<td>0.0</td>
<td>6.3</td>
</tr>
<tr>
<td>Other</td>
<td>30.0</td>
<td>50.0</td>
</tr>
<tr>
<td>Employer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td>93.0</td>
<td>91.0</td>
</tr>
<tr>
<td>Nursing home</td>
<td>1.3</td>
<td>4.8</td>
</tr>
<tr>
<td>Other</td>
<td>5.7</td>
<td>4.2</td>
</tr>
<tr>
<td>Reported salary (full-time)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under $10,000</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>$10,000-$12,499</td>
<td>3.6</td>
<td>10.6</td>
</tr>
<tr>
<td>$12,500-$14,999</td>
<td>23.2</td>
<td>28.4</td>
</tr>
<tr>
<td>$15,000-$17,499</td>
<td>44.5</td>
<td>36.6</td>
</tr>
<tr>
<td>$17,500-$19,999</td>
<td>17.6</td>
<td>14.3</td>
</tr>
<tr>
<td>$20,000 and over</td>
<td>11.1</td>
<td>10.1</td>
</tr>
<tr>
<td>Skill utilization in present job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adequately utilized</td>
<td>82.9</td>
<td>84.8</td>
</tr>
<tr>
<td>Not adequately utilized</td>
<td>17.1</td>
<td>15.2</td>
</tr>
<tr>
<td>Overall job satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfied</td>
<td>84.1</td>
<td>79.8</td>
</tr>
<tr>
<td>Not satisfied</td>
<td>15.9</td>
<td>20.2</td>
</tr>
</tbody>
</table>

Source: Division of Research, NLN Data Service
some letters that we have received in the past year:

I firmly believe that I received the best possible preparation to become an RN through New England Deaconess Hospital School of Nursing.—Lt. J.G., USN NC, RN, MSN, 1979 Graduate

When working in the hospital, I asked nurses where they had gone to school, why, and their feelings on how the school prepared them for a career in nursing. Two year R.N.'s felt they had trouble adjusting theoretically. They performed procedures without really knowing why. Four year R.N.'s were prepared theoretically but not clinically. They felt they should have had more clinical experience. Three year R.N.'s felt most prepared. That the instruction between theory and clinical was balanced.—Class of 1986 Applicant

I was happy to learn that the NEDH still maintains a high quality three-year Nurses Training School. Compared with other hospitals, where nurses receive two years of college and less real nursing training your girls are superior.—Letter to the Hospital President from a Patient

I'm writing this letter to let you know how grateful I am to your nursing school for the excellent training you provide that turns out such quality nursing. Tina was personable, competent, professional, and she had a most soothing way about her. I was in labor for 25½ hours before I delivered. Tina's day ended at 3:30 p.m., and my labor was not over until 6:39 p.m. Tina stayed with me the entire time, giving me encouragement and physically helping me to bear down. This kind of dedication and caring will never be forgotten. Throughout my hospital stay, the nursing care was excellent but Tina changed my experience from one which started out badly to a most positive one that became enjoyable.—Letter from a Patient

These represent unrequested comments, yet they are only examples of the many we receive about the students or from the students themselves. In short, they support the school's philosophy and objectives.

The NLN publication *Competencies of Graduates of Nursing Programs* gives a comparison of the knowledge base of diploma, associate degree, and baccalaureate programs, which shows clear differences.¹ I have summarized that information in Table 2.

What struck me while summarizing this data is that history of nursing is not mentioned for any of the three programs. Is it nonessential to the study of nursing today? At one time, we all had a course in this subject. It was during this course that most of us established an identity, dreamed of being a Breckinridge, Stewart, Nutting, or a composite of our many historical and current nursing mentors.

It would be impractical in this space to interpret the current statements of competencies identified for graduates of each type of nursing education pro-

Table 2. Comparison of the Three Basic Nursing Programs

<table>
<thead>
<tr>
<th>Components</th>
<th>Diploma</th>
<th>Associate Degree</th>
<th>Baccalaureate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>usually 3 academic years</td>
<td>2 academic years + 1 summer</td>
<td>4 academic years</td>
</tr>
<tr>
<td>Cognate courses</td>
<td>33% of curriculum (anatomy, physiology, chemistry, microbiology, psychology, sociology, English, growth and development, pharmacology, nutrition)</td>
<td>50% of curriculum</td>
<td>35-40% of curriculum</td>
</tr>
<tr>
<td>Nursing courses</td>
<td>67% of curriculum (foundations, medical-surgical, maternal-child, psychiatric, acute care, management, leadership)</td>
<td>50% of curriculum</td>
<td>30-35% of curriculum</td>
</tr>
<tr>
<td>Integrated subjects</td>
<td>legal issues &amp; ethics</td>
<td>legal issues, ethics, pharmacology, nutrition</td>
<td>(identified as inherent, not integrated) legal issues, leadership, ethics, management, research</td>
</tr>
<tr>
<td>(AD and BS have one other component)</td>
<td>government, history, literature, etc.</td>
<td></td>
<td>25.35% of curriculum (social sciences, natural sciences, liberal arts, English)</td>
</tr>
</tbody>
</table>


gram by the task force. Suffice it to say that we should refer to the competencies as we revise any part of our programs in diploma education.

Benner and Benner's The New Nurses' Work Entry: A Troubled Sponsorship is another resource for diploma faculty. It reflects what graduates meet in the real world with the competencies with which we send them out to practice. Let me quote one or two points made:

Nurses educated in college settings over the past two decades are in fact, "new nurses." But no planned change is ever without unintended consequences, and the colleges' aversion to technology has violated nursing's inner logic and nurses' sense of who they are, just as hospital-based nursing education has failed in its mission to encourage nurses to be all they could be.

During the past 25 years there has been a strong tendency in science and education to discount ineffable knowledge (knowledge that cannot be made explicit) such as the knowledge that comes with extensive practice of technology.

The Benners further state: "We believe that, if nursing is to be true to its own
‘inner logic,’ it must attend to the richness that can be drawn from its technology and practice as well as to that which it draws from its developing scientific knowledge.”

To repeat, as each faculty evaluates the characteristics and competencies of its graduates, it is imperative that the faculty research every avenue of nursing education data as well as of general education data to create the optimal curriculum. In the October 1983 Journal of Nursing Administration, an unpublished source is quoted on the high costs of nursing turnover: “The total cost per person quitting can often exceed $10,000.” In the midwest section of the United States, this can mean:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Termination</td>
<td>$ 250.00</td>
</tr>
<tr>
<td>Replacement</td>
<td>1000.00</td>
</tr>
<tr>
<td>Training</td>
<td>8750.00</td>
</tr>
<tr>
<td></td>
<td>for a total of $ 10,000.00</td>
</tr>
</tbody>
</table>

Assuming a 30 percent annual rate of turnover, a hospital with a staff of 200 nurses would lose $600 thousand per year. In other words, it behooves hospitals to look at nursing turnover causes and potential solutions in these days of hospital cost containment. When a hospital has its own school of nursing, these training costs can be drastically reduced and the turnover rate of staff might be less. This has always been a strength of diploma education. The diploma school of nursing must continue to educate its graduates in terms of technology while retaining its new-gained strength in teaching technology as a form of humanism. In her prize-winning article “Preparing Nurses for the Technologic Future,” Kathleen A. McCormick cites the technologies in our future as being:

- drugs
- devices
- medical procedures
- surgical procedures
- organizational systems, including hospital information systems
- supportive systems, such as microcomputers.

Therefore, educators must keep abreast of nursing trends as well as nursing education trends in order to maintain accountability for the competencies of graduates. It has been a long-held philosophy of mine that if you teach nursing, you should also practice it. Diploma educators should work one weekend a month, or during part of their summer recess, or on an on-call basis in order to keep abreast of nursing care. This, to me, should be the motivation of all

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2 Patricia Benner and Richard V. Benner, “Consider This . . . Accounting for the High Costs of Nursing Turnover,” Journal of Nursing Administration, 111:10:3, October 1983.
CONCLUSION

In closing, may I restate what I wrote in 1977, "that if we do away with the diploma school of nursing, we will have to invent it by another name." I still believe this to be true—and find in my readings that even further proof of this prevails. With all the ruckus in nursing about the NCLEX exam proving the true status of the diploma graduate as compared with associate degree and baccalaureate graduate, the inference was that one of the others would finally supplant the diploma graduate as highest in test results. We know that it didn’t happen and we know why. It’s being good at what you do that counts; remember that. We are good at what we do in diploma education. In your curriculum implementation, don’t bend, dilute, or delete those characteristics that grant the graduates of our programs the competencies they need to perform well above the minimum state and national standards.

There will be a meld of what is basic nursing education at some point in time; it must include both the application and the theory. One cannot be a nurse without a thorough understanding and familiarity with both. As you identify the significance of the structural components that support the curriculum, keep in mind the characteristics and competencies of the diploma school graduate. You will then identify those components that are the strengths and structures of support needed to retain the integrity of the diploma school of nursing.
