
October 1978

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Recommended Citation

Duffy, Gerald G. (1978) "Research Perspectives: Research on Time Allocation and Content Coverage in Instruction: Implications for Reading Instruction," *Michigan Reading Journal*: Vol. 12 : Iss. 3 , Article 4. Available at: <https://scholarworks.gvsu.edu/mrj/vol12/iss3/4>

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RESEARCH PERSPECTIVES: RESEARCH ON TIME ALLOCATION AND CONTENT COVERAGE IN INSTRUCTION: IMPLICATIONS FOR READING INSTRUCTION

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Introduction

Much recent research has focused on the instructional variables of time and content covered as they relate to instruction. At the simplest level, this research implies that pupils learn more if they spend more time at it and cover more content. While, as Rosenshine (11:2) says, such conclusions sound "like common sense," the fact remains that we know little about how these variables interact with grouping, "open" classrooms and other aspects of instruction. Consequently, this article will briefly trace the history of this research movement, summarize the major findings and provide indications of future directions.

Discussion

The first serious consideration of time as an instructional variable appears in Carroll's (7) landmark model of school learning in which he specified "opportunity to learn" as a crucial consideration. One major "opportunity," of course, is time to learn. This concept was given further attention by Bloom (4) in 1973 and, more recently, Harnischfeger and Wiley (9) have reported studies which indicate that the quantity of schooling is a crucial variable; that the more time a student spends on a task, the more he will learn. This pioneering work was followed shortly by an ambitious study of beginning teachers in California (2), in which the preliminary data further reinforces the importance of time, particularly in the learning of reading and mathematics.

Such interest in time has given rise to further research called "econometrics" (5, 8). These studies, which rely heavily on the tools and theory of the economist, view classroom learning as a production problem. As such, instruction is seen as an allocation of resources with the teacher drawing upon inputs (such as

time, materials) to achieve outputs (such as reading achievement). To the economist, this is a classic production function (5) and allows us to study the classroom as an economic phenomena. As Barr and Dreeben (1) state, "... after all, classroom instruction consists in good part of the allocation of resources to student learning."

Initially, econometric studies focused on how much time the teacher allocated to a particular content. However, as Rosenshine (11:6) has stated, "... the amount of time allocated for content coverage may be quite different from academic *engaged* time . . .," with the latter referring to the time which a student spends engaged in academically relevant material which is of a moderate level of difficulty (2). In fact, while allocated time seems to make only minor differences (11.6), engaged time appears to be a crucial factor; Bloom's (3) analysis of fifteen studies shows clear and consistent results which indicate that an increased amount of student engaged time on task results in increased achievement.

Closely related to the work on time allocation, of course, is that of content coverage. In fact, many researchers consider content coverage and engaged time on task to be essentially synonymous since if more time is spent on a task, more content is likely to be covered. However, measurement of this variable has been a problem (11.4), with some studies counting the number of pages covered, others counting the number of words taught and so on. Nevertheless, significant relationships are found between increased content covered and increased achievement. These results have led McDonald (10:27) to state, "If students have not been taught . . . content, . . . they simply do not do well on those portions of the test relevant to the topic."

The emerging data on time and content coverage raise two crucial questions. The first concerns management of classroom instruction. Several sources (5, 9, 11) report that unsupervised pupils are less academically engaged than supervised students, a fact which leads some researchers to conclude that teachers must either become more effective managers or eliminate "open" classroom activities in favor of those which insure more supervision and, consequently, more engaged time on task. The second question focuses on alternative outcomes. While reading instruction can be viewed as production in which time is an input, there is little agreement regarding what the output (or "product") ought to be. Should it be improved test scores or more stories read in the basal or more library books checked out? As stated by Brown and Saks (5:82), "If some outcomes are better than others, does a best outcome exist and where is it?" The fact that teachers *do* seem to strive for different "products" or outcomes is suggested by Duffy (8) who reported research in which various teachers reflect distinctly different patterns of resource usage; that is, some teachers allocate most of their instructional time to developing decoding skills, others to developing comprehension abilities, others to interests and attitudes in vending and so on.

Conclusion

Clearly, research on time and content coverage has implications for teachers and reading consultants. As Harnishfeger and Wiley state, "The total amount of active learning time on a particular instructional topic is *the* most important determinant of the pupil's achievement." Obviously, then, one road to improved reading achievement lies with more pupil time on task in reading. Considering the current push for assessment and accountability in reading, we can expect this variable to receive great emphasis in the years ahead.

However, caution is also needed, especially in view of the findings which indicate that engaged time on task is alarmingly low in many classrooms (for instance, some research (11:9) indicates that less than 30 "productive minutes" per day is devoted to reading and less than 25 "productive minutes" to math). In our zeal to increase the number of "produc-

tive minutes," we may be tempted to eliminate openness and individualization in favor of more teacher supervision. While the research on time and content coverage should be used, caution and balance should be exercised to insure that we do not abandon the humanistic and affective dimensions in the process.

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