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ABSTRACT

Three areas of concern for those considering competency-based graduation requirements are discussed. First, what is involved in implementing a competency-based graduation requirement? The first tasks are the specification of performance standards and the performance skill areas. Then, appropriate certification procedures can be selected, and their reliability and validity can be verified. The second area of concern is the effect of the new requirements on school practices. The curriculum may be narrowed to concentrate on the skills to be measured, the year of certification may influence curriculum development, and expectations for the students may decline. Options for in-depth study of a particular area may be limited, the focus may be shifted to the slow learner, and slow learners may be discouraged from competing for a diploma. Teachers' organizations may react against the program, the amount of paperwork will increase, and the program may have a negative effect on staff morale. The third areas of concern are financial and legal aspects. The cost of the testing program and of increased remedial programs must be considered, and the probability of lawsuits is quite high. Though competency-based graduation requirements may be valuable, these potential negative effects must also be considered. (BW)

A Point of View

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The current movement at the school-district level toward graduation requirements stated in terms of student competency rather than accrued course credit is generally a response to outside political forces. Several state legislatures have passed bills detailing the product they expect the school district to produce. In some cases, the anticipated product of 12 years of schooling is described in terms of simple literacy—reading at a basic level and computation skills—as called for in the Florida legislation, for example. In other cases, general areas of expectation are detailed in the law with the provision that each school district finely define the skill areas it will be held responsible for and the level at which each graduate should perform—the Oregon legislation, for example.

Rather than consider the forces that brought competency-based programs to the educational systems or review the various state statutes dealing with competencies for school children, this paper will address three general areas of concern that should be considered:

1. What is involved in implementing a competency-based graduation requirement?
2. How are the new requirements likely to influence school practices?
3. What are the legal and financial ramifications of the requirement?

Each of these questions will be discussed briefly. However, the discussion will not provide an answer in the simple sense. The knowledge base concerning these programs is very limited. Where competency-based requirements do exist, the programs have been in operation for a short time, and information, if there is any, is tentative. Moreover, unlike other educational innovations that have had enabling legislation—the Elementary and Secondary School Act, for example—there is no demand from legislatures for evaluation of a competency requirement. Consequently, no systematic information is being collected regarding the program and its effects on the students and the schools as organizations. This lack of information has created a situation where advocates and adversaries argue cases in the media, relying mainly on rhetoric and catch phrases rather than on information collected from actual cases.

The discussion of the three questions posed in this paper will concern what might happen if competency-based graduation requirements were instituted in a school district. The consequences that will be discussed are primarily negative. Some of them might be averted by concurrent actions of the school district, while others, in my opinion, are necessary consequences of the graduation requirement.

WHAT IS INVOLVED IN IMPLEMENTING A COMPETENCY-BASED GRADUATION REQUIREMENT?

The decision to transform a diploma from a record of successful completion of courses at the high school level to a certification of skill involves two major questions:

a. What is the standard of performance to which individuals will be compared?

b. How will individuals be tested so that they may be certified?

Some individuals consider the certification process simply a matter of making a measurement decision. I submit that the measurement decision must be secondary. The first task must be to set standards in certain performance areas. Only after "competent" has been defined can the selection of the measurement procedure take place. If the standard is set after the measure is developed, the testing procedure will tend to determine the areas of competency rather than the other way around.

Setting a Standard

The choice of a standard of performance in the area of competency-based diplomas may be limited by the legislation in some states. Those states that have limited the required skills to reading and computation have, in fact, made decisions for local school districts. The districts must simply work within the constraints of the skill areas to set standards of performance in those particular areas. Let us consider the more general case where the areas of skill must first be determined and then standards of performance set.

Selecting skill areas and setting standards for certification are done on a regular basis by various state and local agencies. Any licensing procedure involves both activities. Consider for a moment a widely accepted procedure with which almost every adult in this country is familiar—the driver's test. When the automobile was first introduced in this country, there were no certification procedures for drivers. Legislation was enacted when problems began to be noticed. It was more than a matter of incompetent drivers. Licensing vehicles and drivers was necessary to generate revenue for road maintenance and also to keep track of who was on the road and who owned the vehicles. Individuals who began driving in the 1920s often received their first license by simply paying the appropriate fee. There were no performance tests. As our knowledge base increased—that is, as we came to know what a good driver was—and as states developed departments of motor vehicles, tests of driver

competence were developed: A good driver, or a competent driver, has come to be defined as a person who has two basic skills. The first of these is a knowledge of the rules of the road. Each state has procedures that measure how well an individual knows the laws governing a driver, and has designated an appropriate knowledge level. The second skill area in which a driver must show competence is on-the-road performance in a vehicle. The level of performance and the situation in which the performance is observed vary from state to state.

Driving competence, then, is defined in terms of two different kinds of skills, and standards are set for each of them. As the old definition becomes inadequate, the definition of competence continues to be refined. In the area of driver licenses, the states have defined two ways of checking on the adequacy of their initial definition of competence. First, traffic violation records are maintained. If individuals show through their driving records that they continually violate the law, then the state uses its mechanism for revoking their licenses. Second, the license is not a lifetime certificate of skill. Some states have exercised the option to recertify the individual in either or both of the important skill areas each time the license is up for renewal.

The standard of performance and the performance skill areas are continually updated for all who seek the performance certificate. This procedure was developed because the initial standards proved to be inadequate. Why are the old skill levels considered inadequate? First, because conditions on the road constantly change, and standards must be upgraded to meet them. Second, because the states had little knowledge of what good driving meant, the initial standards of performance were set at an arbitrary level. Today, as we increase our understanding of performance at one arbitrary level, we can make reasonable, information-based decisions about changes in that arbitrary standard.

If the driver's license analogy holds for the high school diploma, we might see diplomas that are good for five years. After that time, individuals would have to show that they have not let their skills in reading and computation slip. After a generation, we might find that there are other skills that a competent high school graduate should have. Renewal of the diploma (certificate of competence) could then be based on skills in social studies or science, for example. Competence in skills not included in the first performance standards may, in time, be necessary for performance as an adult in our society.

A second licensing procedure with which we are familiar is the testing of competence to perform in a specific job area. Educational institutions and state agencies certify individuals to become teachers, accountants, nurses, pilots—the list goes on to include all professions requiring licensing. The nature of the standard of performance in this situation is slightly different from the case discussed above.

The nature of the standard depends on at least two conditions: 1) whether or not the skills that are necessary to perform the task are well defined, and

2) how effectively the licensure process is used to control the market. Consider for a moment the criteria used by the airlines to select pilots. Competence is defined by the FAA in terms of the number of hours logged actually flying an airplane. However, after the Vietnam conflict, so many young men returned with enough flying time logged to receive a license that the airlines began to systematically raise their standards of performance for a pilot's job. Because FAA regulations already specified necessary air time logged, the carriers added the dimension of academic credentials. There are no data to support the claim that a master's degree makes a safer pilot, but the carriers use that standard to narrow the numbers of eligible candidates for the job. An arbitrary standard, yes, but one that is objectively applied to all candidates.

Consider, also, the case of nursing standards in this country. Each state has a different cut-off point on the National Nursing Examination which it uses as the standard for a nursing license. If the level of performance on the test were directly related to acceptable skills; then one might suppose that the same score would be used by all states. However, health facilities need to hire a certain number of nurses, and some parts of the country have more difficulty in recruiting than others. Consequently, states control the number of eligible candidates for jobs by manipulating the acceptable score for a license. Within any state, however, a license does not guarantee a job. The individual institutions need more information to make a judgment about nursing skills and often request a transcript of grades from a training institution. Grades are a partial indicator of the skills of an individual candidate in patient-care practices not easily measured by a paper-and-pencil test.

Will the job market for high school graduates have an influence on what the acceptable performance for certification will be? Can a school district politically afford to set a standard of performance that will not be met by 80 percent of the students attempting to become certified? How can a school district defend itself against critics who point to differences in the standards of performance between one district and another? While the media have been quick to point out the arbitrary nature of the mandatory retirement age, they have not seen the arbitrary nature of state licensing procedures. It seems reasonable to assume that the press will not see that setting standards for proficiency in computation at various levels is just as arbitrary as setting a retirement age level at 65. Any acceptable level of performance is, in fact, strictly arbitrary, and its worth can only be determined by the test of time (Glass, 1978).

Therefore, the question of the standards that the schools must consider is not so much what level of performance is acceptable, but what sorts of performance ought to be considered when a standard is defined. Do we expect 12 years of education to produce individuals who can read and compute or are there other essential areas? How much history is essential? Is an understanding and appreciation of the arts important? Should the quality of schooling be

judged by an individual's ability to secure a job? And, most important, how will we evaluate the standard we set? When should we examine the decision so that the standard can be changed if necessary?

These decisions need to be considered by many parties. Boards of education and professional educators should interact in an open fashion so that all value positions can be heard. Setting standards is a critical procedure for schools, since it defines a major emphasis of the school. Boards of education must be sure that their authority for local determination has not been usurped by either the state legislature or the state department of education. Local boards should retain the option of reviewing the standards and changing them, if necessary, to make them consistent with the values held by the community and the professional opinions of the staff of the schools.

Testing for Certification

Once the standard of performance has been set, the procedure for determining whether an individual student has met that standard can be selected. No particular measuring system is always the best to use to determine a specific skill level. Every procedure has to be investigated to determine how good the information from the procedure is and how easily it can be implemented by the system. Thus, there are two major questions for each district to answer: 1) What sorts of procedures might be used? and 2) How will the measurement procedure be selected? Notice that in the discussion of the measuring or testing device, we are not concerned with whether we are measuring the right things. The question of whether the standard selected is right or appropriate is not a measurement question.

The way in which the standards are stated, however, does limit the way in which the certification can be done. Some states and districts have compiled relatively long lists describing the skills to be acquired by a student during the 12 years of instruction. Certification of skill acquisition takes place in this system throughout the student's school career. In other programs that are competency-based, the skills that have been described are minimum requirements for graduation, to be tested in the eleventh or twelfth grade.

If certification occurs at various points while the student is in the school system, it will most likely involve teacher judgment. Teachers certify that the student has acquired the necessary skills specified in his permanent file. This system does not represent any major departure from the basic procedure of the school; it is merely a new name for an old grading technique. Instead of a child getting a report that indicates that he or she completed third-grade mathematics satisfactorily, he or she now has those specific competencies certified by the teacher. No substantial change in the school has to be effected in order to

accommodate this new procedure. The effects on teachers, students, and the public, however, might be substantial. These effects will be discussed below.

If certification is to take place just before the termination of a student from the system, the most common sort of procedure used involves a paper-and-pencil test. Whether the test is developed by the local system, the state department of education, or some independent firm, this measure of student achievement is given much more weight than any other piece of evidence concerning the level of learning the student has achieved. The quality of the measure, therefore, must be beyond question. However, no single measurement device can be good enough to outweigh 12 years of other evidence. If the measure yields evidence that is different from all the other evidence the school has collected about the individual, then one has to ask if there was something about this particular testing situation that made the results inaccurate. Might it be that the student was ill that particular day or was the test a poor measure of skill?

Some school systems have developed a third alternative: While teacher judgment in terms of grades in particular courses is still required for the high school diploma, the ability to read on a particular level is required for entry into the high school. In some school districts, reading proficiency at the sixth-grade level is adequate. Specification of the standard in this situation is based on group norms (Shepard, 1976). The rationale for this system of entry into the high school reflects the different functions of the two school levels: basic skill development taking place at the elementary school level and advanced study taking place at the high school level.

Reliability and Validity

No matter what system of certification is used, two major criteria should be applied to judge its adequacy. These criteria are the accepted standards for technical adequacy of a measuring device—reliability and validity. The reliability of a measuring device or procedure concerns its consistency. That is, does the device act like an elastic tape measure indicating different lengths of the same thing each time it is used or does it give the same information each time it is used? One has to ask whether a teacher's judgment is the same over time and whether two teachers making a decision concerning the same student would agree. If decisions are not the same, then one would have to say that the procedure used was not reliable.

If a paper-and-pencil test is used to make the certification decision, one must ask whether the test gives the same information concerning a given student on various days of testing. Procedures exist that help test developers find out how much of the test score can be influenced by the time at which the test

is given, the room conditions in which the test is administered, and the effectiveness of the administrator. However, there are some conditions that affect scores in ways that may not be immediately clear, such as the health of the student or his motivation to succeed on the test.

The second criterion of technical adequacy, validity, indicates the extent to which the device measures what it is supposed to measure. If a test is supposed to measure ability in social studies, evidence of invalidity would be that the test actually indicates the reading ability of the group and does not, strictly speaking, measure knowledge of social studies. Three techniques are available to gather evidence concerning the validity of a measurement procedure. First, evidence is gathered about the content of the questions asked during the procedure. Judges review the questions and ask whether there is an identifiable difference between the questions used in the procedure and the description of what the procedure is supposed to measure. For instance, in a test that is supposed to measure mathematics ability, judges would ask why some of the items might contain references to historical facts. Additionally, these judges could check for other kinds of unintentional biases in the items. This sort of validity check is called *content validity*.

Second, the test could be compared and related to other measures with which it is supposed to agree. This sort of validity evidence is called *correlational validity*. In the case of competency measurement, this sort of evidence may be difficult to find. In traditional measures, individuals are often separated by great differences in score. In fact, test developers try to find items that measure not only important bits of knowledge but also the differences between individuals. Items that everyone gets correct are often removed from the tests.

However, in competency-based measurement, it is important that each item be selected for what it asks, and whether everyone gets it correct or not is not an issue. Consequently, such a measure may produce test results that show everyone getting all items right. In this kind of situation, no correlational validity would be found. This position has been stated in the literature many times in the last several years (Popham & Husek, 1969). Educators have not found an adequate replacement for correlational validity, so many tests do not report this sort of index. The impact of the lack of this evidence on the overall quality of tests is unknown.

The third, and most difficult, sort of evidence to gather is called *construct validity*. Does what the test measures exist in the way the test developer thinks it does? That is, if the test is supposed to measure literacy, and we believe that literate people behave in some substantially different ways from illiterate people, will the scores reflect the differences between the two groups? There are various experimental procedures for gathering evidence, but it generally takes a long period of time. Regarding the example of a literacy test, the information

concerning the test procedure also asks the question, "Does the construct of literacy make any sense?" Construct validity asks not only about the measurement procedure used but it also asks about the definition of what is being measured. If the plan for the measuring device were not thought through properly, it would be very difficult to find evidence to support the construct validity of the device.

Collecting evidence concerning the quality of the measurement procedure cannot be done only once. The quality of the evidence is limited by the situation in which it is gathered and the way in which the test information is used. The quality of the devices must be checked over time to be sure that a good instrument remains good and to find ways of improving a moderately good one.

Whatever procedure is used to certify individuals in the school system, all parties concerned should be very sensitive to the issue of measurement quality. No other procedure in the school is likely to come under the scrutiny of so many people. And, more important, no other procedure has as much likelihood of affecting the lives of individual students.

Implementing the Program

The two issues of implementation—setting the standard and testing for certification—involve decisions that a board of education should make very carefully. Before implementing a competency-based program, the board needs to know how various members of the community feel about education, what the professionals think and know about what is happening in the schools, and at what grade level certification procedures should be implemented. Before using the requirement for the diploma, evidence concerning the quality of the measures should be established. Without this information, the requirement is indefensible.

HOW ARE THE NEW REQUIREMENTS LIKELY TO INFLUENCE SCHOOL PRACTICES?

Those who support competency-based graduation requirements feel that such requirements will have some lasting and good effects on schools in this country. They see the high school diploma taking on new meaning, reflecting upgraded skills in high school seniors. I hope they are right. And hope is all we have, since no one has evidence that this change in graduation requirements will produce any effects at all. Rather than review the possible benefits of certified skills, let us consider the possible negative impacts the change may have on three major segments of the school as we know it today—the curriculum, the students, and the staff.

How May Curriculum Be Affected?

Supporters of the competency-based movement suggest that certification will bring us back to the basics. One is tempted to ask, "Back from where?" But that is not important. "Back to the basics" may be the positive way of saying that our school curricula are to be narrowed by this movement. The certification requirements will lead to concentration on the skills necessary for graduation. However, pointing out the areas of concentration in the curriculum does not tell us what, in fact, is going to be deleted from the curriculum. Since an essential feature of a certification requirement is the testing for certification, the skills that are prescribed might turn out to be those that are simple and easy to measure. Thus, the more complex skills taught in the schools may be deleted from the program of study. The program in a school district could be defined by a testing device that was constructed under the pressure of time and for which there is no adequate rationale. Letting the test define the school curriculum is possibly the worst effect the requirement could have on school practice.

A second and related issue is that the competencies to be certified may have been developed through some kind of negotiation process among educators and various representatives of the community. The team that develops the list of skills cannot include every skill the people feel is important. If we tested for all of those skills in the schools, there would be no time left for instruction. The negotiation process could lead to compromises, and the final list of skills could contain three types of competencies: a) those skills that everyone agrees are important; b) those skills that, while some disagree as to their importance, no one finds objectionable; and c) those skills that no one really cares about but no one objects to either. The reason the three skill types are included is that agreement is a very difficult thing to achieve once the team moves away from

reading and computing. It is relatively easy to agree that all children should be able to read (although the level-of-reading standard may be difficult to find). Questions concerning the level of art appreciation, vocational training, and social facts are much more difficult to answer. The team developing the list of skills quickly moves to find closure on a particular skill by asking if anyone in the group objects to that skill being taught in the schools. The result is a manageable list of skills to which everyone agrees, and to which there is no objection, rather than a list of skills that everyone sees as equally important.

A third impact on the curriculum occurs when the decision concerning the year of certification is made. If certification occurs the year previous to the termination year, skills the child should have learned in elementary school are included in the high school curriculum to ensure that he or she will pass in the eleventh grade or in the twelfth grade for those who failed the first time. In effect, the curriculum of the high school duplicates the elementary school curriculum for most students in the eleventh grade and for some students in both the eleventh and twelfth grades.

A fourth possible influence on the curriculum of the school might be the general decline in expectations for the school and students. Minimum requirements will soon be interpreted as maximum expectations. The certification standards are the public's point of reference with the school. If only minimums are stated, that is all the public will expect of the schools. Thus, the expectation for a product of the public school will be set at the minimum. In addition, and perhaps most tragically, those inside the school system—the students and teachers—will begin to accept the minimum standards as the expected level of performance.

How May Students Be Affected?

The effects of a comp[illegible]y-based program on the student population are varied. In some respects all children are affected by the changes inherent in this curriculum strategy. The first significant difference between this strategy and others is that options for in-depth study of any particular area of academics or any particular vocational skills may be limited. The student must proceed through a curriculum geared to a set of competencies representing the general population and not that student's particular interests.

A second, and more devastating, blow to most students who are in the average range is that the focus of the school district is on the slow learner. The school district has the responsibility for remediation of any students who do not achieve competency on a measure or receive the rating of "competent" by a teacher. Once a standard for a skill has been adopted, the school has a moral responsibility to have all students reach that goal. Consequently, extra pro-

grams and special events are focused toward the slow learner. The average student who proceeds along the proposed timeline of competency achievement does not participate in any enrichment programs. The gifted student who may achieve those competencies early has no options in terms of special events or enrichment because teacher time and school district money are devoted to the remediation of the slow learners.

And finally, the slow learners may be negatively affected by the change in certification. Rumors of the difficulty level of the test may cause some slower students not to enter into the competition for a diploma. The drop-out rate may, in fact, increase because students decide to enter the job market early with no diploma rather than spend time in school and exit with a certificate of attendance. Moreover, remedial programs may be withheld from students until they have failed the certification test. If the procedure is late in their school career, it may be too late to help them achieve success.

How May Staff Be Affected?

If a competency-based program is implemented, there are three major areas in which the staff of the school district will be influenced. First, if the staff is organized and the program involves a paper-and-pencil measurement device, there is likely to be a strong reaction from the teachers' organization. The National Education Association has taken a strong stand against the use of formalized testing programs (Quinto & McKenna, 1977). Most local associations see large testing programs as a means of changing the criteria by which teachers are presently evaluated. This matter is likely to create labor/management friction.

Second, if the program is implemented, it will change the way teachers interact with students and other educators in the system. The amount of paperwork that a competency-based program generates is horrendous. Not only is paper consumed as objectives are generated and passed through the system, but, also, teachers spend a great deal of time writing detailed reports of what they have done. Generating procedures for the certification of competencies consumes time and paper. Time is spent monitoring student progress. Whatever system of certification is established, the procedure selected to measure the competency is added to the existing measurement procedure. The skills measured by competency tests may be valued by the district but not necessarily by the classroom teacher to whom testing for such skills would be a waste of classroom time, since it has no place in the planned learning for his/her classroom.

Third, the program is likely to have a negative effect on staff morale. A curriculum based on the list of skills prescribed by the district is likely to be inter-

preted by the teachers as a way of restricting their creativity in the classroom. When curriculum decisions are made at the building level, teachers may interact informally to change the curriculum, but the district-level statement will be much more difficult to affect in an informal way, thus, lowering the level of influence an individual teacher might have.

WHAT ARE THE LEGAL AND FINANCIAL RAMIFICATIONS OF THE REQUIREMENT?

Boards of education have always been concerned with the cost of education, and in today's climate of taxpayer revolt and rising prices, this concern has become acute. Consequently, the cost of any new program must be carefully considered. Additionally, since we are now in an age where legal encounters between individuals and educational institutions have become almost commonplace, actions of the board must be reviewed for possible legal ramifications. Frequently, school policy is determined in the courtroom and not in the board room.

Some Financial Aspects

Two kinds of extra expenses will be incurred by a school district if a certification requirement is established for high school graduation. The first is obvious. It is the cost of the procedure itself. Whether the certification process involves teacher judgment or a testing program, the cost of record keeping will increase for the district. Some districts that have put such a program into operation have had to purchase computers to accommodate the extra records generated by the program. Not only are there supply requirements, but staff generally needs to be added as well.

The second cost resulting from implementation of this kind of program is a hidden one. The district will have to start a remediation program for those who do not meet the certification requirements. The number of individuals requiring extra instruction will depend on the student population. It seems unlikely that a district that decides to give diplomas based on certified skills could change its mind if the test revealed that too many students were below the certifiable level. Nor could the district lower the level of certification, since initial announcements would, no doubt, be accompanied by a campaign to convince the public of the worth of the performance standards. The district, then, must establish and assume the cost of a program of remediation. Special federal and state funds are generally earmarked for elementary-level programs, so the district would have to find other sources of funds for remediation. At this point, it seems unlikely that the taxpayers would be willing to vote in favor of increasing taxes to give the schools a second try at teaching a group of students. The board would have no alternative, then, but to reassign staff and drop some existing programs.

The cost of the remediation process would be a difficult thing to plan for. No school district should enter into competency-based strategies without some

idea of the number of students who are likely candidates for the remediation program.

Some Legal Aspects

In recent years, many educational policies have been set in the courts. Individuals have sued districts for many things, ranging from violation of due process to culpability for a student's inability to get and hold employment. We can only speculate as to whether the courts will continue to rule in favor of the school districts that have certified specific skill levels.

The present educational procedures call for school districts to certify that students have satisfactorily completed a particular educational program, not that a student can read at a particular level or comprehend a particular newspaper article. Records of the schools now indicate the number of teacher conferences in which a teacher indicated that a student was not meeting the teacher's or the school's expectations.

A quality measuring device is critical to the certification process in the legal sense not only because it may be used as evidence if the district is brought to court but also because the district must be sure that certification occurs only if the student truly achieves at the level specified by the school district. Fear of this type of court suit might tend to make the district very conservative in its setting of performance standards. Such conservativeness will increase the cost of remediation, since more individuals will fail to meet the certification requirements.

A second kind of suit may be brought against the certification procedure itself. A charge of bias is likely to be brought against districts with a minority population that achieves at a lower level than the majority. If other tests show a difference on a group basis, it is unlikely that the certification test will not show the same group differences. If the procedure itself is not charged with bias, the way in which the remediation takes place will most likely be condemned as a mechanism for introducing segregation into the schools.

CONCLUSION

I have tried in this paper to consider some of the negative consequences of a competency-based graduation requirement. It is not my intention to state these positions as facts, because the facts concerning a certification requirement do not exist. Rather, I would hope that those individual school districts that are not required by law to implement the program wait and see what happens in the states where the certification requirement has been specified by the legislature. This is the standard procedure for most districts anyway. A small percentage of districts try any and all educational changes. A small percentage do not change at all. But the vast majority of decisions are based on the effect of a change in another location. The same should be true of a change in the way we graduate students from our schools. The decision should be made with full knowledge of the consequences of the change and not because television commentators, syndicated columnists, or the state legislators use rhetoric to convince local boards of education.

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