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Factors affecting the scholastic achievement of Prince of Songkla University students from private schools with Islam instruction in the three southern border provinces

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ABSTRACT

The objective of this research was to study the factors affecting the scholastic achievement of Prince of Songkla University (PSU) students who came from private schools with Islam instruction in the three southern border provinces as well as an approach for quality development for the students of the above-mentioned schools toward a higher level of university scholastic achievement. The sample consisted of 918 students who had completed upper secondary education from the private schools with Islam instruction and six administrators of the schools as stated who rendered data by interview. From the discriminant analysis, only one discriminant variate best capable of discriminating university scholastic achievement was labeled as “reinforcement teaching”, which bore a high level of correlation to remedial-teaching and O-Net scores variables. From interviews with school administrators, the schools needed the government to render more support in the matter of scholarships and to provide for academic development in the form of academic coaching or participation in academic workshops under the care of teachers with area expertise. The research suggested: the government should subsidize all secular fields as well as the field of religion, and the Ministry of Education should render additional academic support by the provision of expert teachers for extra teaching in the form of reinforcement teaching or academic coaching, particularly for small schools.

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Introduction

Education is an important tool for the development of the population of a country toward the goal of complete quality and efficiency, as a tool to contribute to the creation of human

resource for a country toward complete development in body, mind, and intellect. That is to say, in the development of knowledge and understanding of various academic spheres, amenable to the development of self and one's country are the development of citizens' mental and intellectual exercise, the

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placement of citizens' behaviors on a correct and desirable path, and the cultivation of right attitudes and values. The creation of a standard of merit and ethics in the life of a learner and in education is a process for humans to develop their life quality so as to live in society peacefully and to be able to nurture appropriately the development of their country, in keeping with changes in all its areas (Tappasert, 1999, p. 12).

At a university with educational foundations, its instructors are charged with the duty of teaching and cultivating things good and beautiful in their students, namely, the quality of being human and educated, of being learners, and persons of culture (Nakata, 2003, p. 77).

Here the university is an important source of power. Those having a university education will have the power of knowledge and ability and be ready to respond to the needs and development of their country. The important tasks of a university are to provide instruction of quality, to produce graduates of a high caliber, and to create bodies of knowledge as well as to foster an esthetic culture.

To carry out the tasks of the university is crucial to national development (Meesuk, 2001, p. 67). Furthermore, achievement in the conduct of education through the important tasks of the university rests upon the production of quality graduates. The scholastic achievement of a student is a person's attribute and ability born of instruction. It is a change in behavior and experience as a result of learning, training, and teaching (Katawanij, 2006, p. 38). Moreover, scholastic achievement is an indicator of a learner's quality based on the assessment of each learner's learning ability (Department of Curriculum and Instruction Development, 1994, p. 47).

The private schools with Islam instruction are schools under the Act of Private Schools of B.E.2525 (1982). They were developed from "Pawnoh" of B.E.2504-2514 (1961-1971), and may be classified into two types, namely:

1. Private schools with Islam instruction under Article 15 (2) of the Act of Private Schools of (1982), providing in part, Islam instruction in accordance with the syllabus of the Ministry of Education and in part, academic instruction by the syllabus of the Ministry of Education, both programs running side by side. But in terms of the readiness of personnel and system of learning organization, the requirements of the Ministry of Education have not been met sufficiently for these schools to be recognized under Article 15 (1) of the Act of Private Schools of B.E.2525 (1982).
2. Private schools with Islam instruction under Article 15 (1) of the Act of Private Schools of B.E.2525 (1982) teaching both Islamic studies and academic subjects by the syllabus of the Ministry of Education. These schools are of two types. Type 2a consists of private schools with Islam instruction administered by associations or foundations that are legal persons whose per capita expenditures are financed by the government. For these schools, the government withdraws civil-servant teachers of academic subjects, as financial support is provided for the hiring of this specific type of teacher. Should the schools find it necessary to employ civil-servant teachers supplied by the government, they must refund to the government a sum of money equivalent to such a civil-servant teacher's basic

educational qualification. Type 2b consists of private schools with Islam instruction licensed to individuals whose per capita expenditures are funded by the government like any academic-program private schools. The government provides civil-servant teachers in part to teach academic subjects alongside teachers hired by the schools. It is worth noting that the terms "Pondok school" or "Tadika school" are not used, as such terms may be misleading. For example, "Pondok" may be intended to mean "private school with Islam instruction" but is perceived to be "Pondok" or "Pondok educational institution," with a possibility of misinterpretation. In the case of a Tadika school, this is generally perceived to be a school by the Act of Private School of a standard comparable to that of schools in general. But in its true sense, *Tadika* is only a place of religious learning operated by a religious organization (Masjid).

As the government at present has increasingly turned its attention to education for the public, with education being an important tool for true national development, the components of learning must correspondingly take into consideration various factors affecting scholastic achievement to serve as data for problem solution and improvement of students' learning. Prince of Songkla University can be said to be the first institution of higher education in southern Thailand. It has offered instruction since the 1967 academic year. Today it is made up of five campuses in Hatyai, Pattani, Suratthani, Puket, and Trang, with a total of 28 faculties, two community colleges, and one founding project (project of founding a faculty of medical technology). Its current undergraduate enrollment is 20,343. Nevertheless, when the scholastic achievement of present-day students is taken into account, it has been found that a sizable number of students have not been as successful academically as they should be. For example, in the 2007 academic year, a lot of undergraduates at the Pattani campus failed academically, as 618 or about four per cent of the total student body dropped out, of which a large number had graduated from the private schools with Islam instruction in the southern border provinces.

For this reason, the researchers as members of the Faculty of Education were interested in studying the factors that contributed to the scholastic achievement at Prince of Songkla University of the students who had graduated from the private schools in the southern border provinces and to employ the findings of the research as a guideline for the educational development of these private schools for efficient quality development of students toward the goal of potential sufficiency for scholastic achievement in higher education.

Research objectives

1. To study the attributes of teachers and administrators and the characteristics of the private schools with Islam instruction in the southern border provinces whose upper secondary graduates had continued their studies at Prince of Songkla University.
2. To study the factors affecting the scholastic achievement at Prince of Songkla University of students who had been

upper secondary graduates of the private schools with Islam instruction in the southern border provinces.

3. To study guidelines for the conduct of education in the schools in question as far as it would affect the scholastic achievement of their students enrolled at Prince of Songkla University.

Research Methodology

A mixed research method was employed to study the relations between a group of independent variables consisting of attributes of students, characteristics of schools, the conduct of education of a school, attributes of school administrators, and attributes of teachers, with the dependent variable being the first-year scholastic achievement of the students who finished upper secondary education from the private schools with Islam instruction in the three southern border provinces. The research also studied an approach to the development of students in these private schools toward a high level of scholastic achievement when the students attended Prince of Songkla University.

Research tools

The research tools consisted of questionnaires to collect data on administrators, teachers, and school characteristics; an in-depth interview form for administrators; and a record form for each student's personal data informed by the Registrar's Division of Prince of Songkla University.

The population consisted of 918 first-year students of Prince of Songkla University during the 2010 academic year who had graduated from private schools with Islam instruction in the three southern border provinces, and the 80 administrators of the above-mentioned schools whose graduates came to study at Prince of Songkla University in the 2010 academic year.

Samples

The research sample consisted of all first-year students of Prince of Songkla University in the 2010 academic year who graduated from the private schools with Islam instruction in the three southern border provinces and from whom complete data were obtainable concerning the independent variables and the dependent variable. A total of 59 schools responded to the questionnaire, with six school administrators willing to provide data by interview. All data were collected between May 2011 and July 2012.

Data analysis

Discriminant analysis was employed to find out factors which affected the achievement level of Prince of Songkla University students who graduated from private schools with Islam instruction. Independent variables consisted of attributes of schools, administrators, and teachers and the dependent variable was students' achievement level while they were freshmen in the university.

The first discriminant variate (D.V.) in standardized form was as follows:

$$\begin{aligned} \text{D.V.} = & -0.016x_1 + 0.104x_2 - 0.009x_3 + 0.809x_4 + 0.074x_5 \\ & - 0.503x_6 + 0.356x_7 + 0.118x_8 - 0.379x_9 + 0.367x_{10} \\ & - 0.255x_{11} - 0.222x_{12} + 0.001x_{13} - 0.461x_{14} + 0.225x_{15} \\ & + 0.046x_{16} + 0.147x_{17} - 0.059x_{18} - 0.386x_{19} + 0.091x_{20} \end{aligned}$$

where

- x_1 = guardian's level of education
- x_2 = guardian's occupation
- x_3 = guardian's income
- x_4 = O-NET score,
- x_5 = administrator's level of educational qualification,
- x_6 = administrator's job experience
- x_7 = country of administrator's graduation,
- x_8 = school size
- x_9 = vocational program arrangement,
- x_{10} = remedial teaching
- x_{11} = extra teaching by expert
- x_{12} = special program
- x_{13} = number of general-stream teachers
- x_{14} = number of Islamic-studies teachers
- x_{15} = general-stream teacher's experience
- x_{16} = Islamic-studies teacher's experience
- x_{17} = Islamic-studies teacher's domicile
- x_{18} = general-stream teacher's domicile,
- x_{19} = proportion of general-stream teachers having graduated at highest level in Thailand.
- x_{20} = proportion of Islamic-studies teachers having graduated at highest level in Thailand.

Nonmetric or qualitative variables (x_1 , x_2 , x_7 , x_{17} and x_{18}) were assigned as dummy variables with binary coding (0,1) (Hair, Black, Babin, Anderson, & Tatham, 2006, p. 171) for further analysis.

Results

Attributes of samples, schools, administrators and teachers

Attributes of samples

Prince of Songkla University comprises five campuses located in different areas of Southern Thailand. Students from private schools with Islam instruction were distributed in The five campuses as shown in Table 1.

When samples were classified by campus attended as shown in Table 1, it was found that Pattani campus was the

Table 1 – Samples classified by campus

Campus	Frequency	Percentage
Pattani	782	85.18
Hatyai	107	11.66
Phuket	12	1.31
Trang	9	0.98
Suratthani	8	0.87
Total	918	100.00

most popular with 782 students in total (85.18%) followed by Hatyai campus with 107 (11.66%). The sample group attending the Faculty of Humanities and Social Sciences at the Pattani campus was the largest in number, at 290, making up 31.59 percent of the total sample. The second largest attendance was for the Faculty of Education at 219 (23.86%), with the College of Islamic Studies third at 84, making up 9.15 percent. Overall, students from private schools with Islam instruction in the three southern border provinces preferred studying in the field of Social Sciences to either Natural Science or Applied Science.

From a study of average O-NET points, it was found that the average O-NET point of the students with low scholastic achievement was 238.07, while the average points for the students with moderate scholastic achievement and for those with high scholastic achievement were 251.81 and 270.80, respectively.

It was found that the occupations of the guardians of the students with least scholastic achievement were mostly agricultural, at 34.78 percent. For students with moderate scholastic achievement, their guardians' occupations were mostly private business enterprises and services for hire, at 38.05 percent, which was also true of students with high scholastic achievement, at 45.0 percent.

Attributes of schools

Large schools were the most numerous, numbering 37, making up 62.71 percent of all the schools in the entire sample, while there were 20 medium-sized schools, making up 33.90 percent of the entire number of schools, with the lowest number being 2 schools of small size, making up 3.39 percent of the total number of schools. It can be concluded that more students came from large private schools with Islam instruction than from medium-size and small schools.

Most schools (39 or 66.10 % of the total sample) were located outside the municipal boundary. There were 20 schools, or 33.90 percent of the sample, located within the municipal boundary. In terms of class size, it was found that the average number of students per classroom at the schools in the sample was 39.

Of the sample, 59 schools, or 100 percent, received some support to finance 15-year free instruction, basic needs for poor students, and classroom buildings.

The provision of vocational programs by the schools was offered by 45 schools or 76.27 percent, with an average of two programs, while 14 schools, or 23.73, did not provide any vocational programs.

Remedial teaching of academic subjects to students was provided in 55 schools, or 93.22 percent and covered eight learning substance groups, with 4 schools, or 6.78 percent, not undertaking remedial teaching of academic subjects. Among schools which provided remedial teaching, 43 schools, or 72.88 percent, invited expert teachers from outside to provide extra teaching to students in the courses of the eight learning substance groups, while 16 schools, or 27.12 percent, did not provide this service.

Attributes of administrators

The highest educational qualification of administrators was a master's degree, with 31 holders at 52.54 percent of the total number of administrators. Another high educational

qualification was a graduate certificate, numbering 11, or 18.64 percent of the total sample. It was also found that the fields of study most achieved by the administrators involved the academic stream, with 55 administrators or 93.22 percent of the total number of administrators, while the field least attended was Islamic studies, numbering 4 administrators and making up 6.78 percent of the entire sample of administrators.

Thailand was the country where the highest degree of administrators was earned, with 52 administrators in this category, making up 88.14 percent of the total number of administrators. Other countries from which highest degrees were earned were Pakistan, Indonesia, Saudi Arabia, Malaysia, Egypt, and India, involving 7 administrators or 11.86 percent of the total number of administrators.

Attributes of teachers

Teachers in the academic stream at small schools were most likely to have a bachelor-degree qualification, at an average of 11 teachers, or 52.38 percent. At medium-sized schools, teachers in the academic stream possessed a bachelor-degree qualification at an average of 22, or 91.66 percent, with such teachers at large schools with a bachelor-degree qualification averaging 62, or 93.94 percent.

Regarding Islamic-studies teachers' educational qualifications, it was found that at small schools these teachers had sub-bachelor-degree qualifications, at an average of 13 teachers, or 65.00 percent. At medium-sized schools, such teachers possessed a bachelor-degree qualification, at an average of 12 teachers, or 52.17 percent. At large schools, the teachers of Islamic studies had a bachelor-degree qualification, at an average of 30 teachers, or 55.56 percent.

At small schools, the teachers of Islamic studies averaged six years teaching experience while the teachers in the general stream averaged four years. At medium-sized schools, the average for Islamic-studies teachers was eight years, with an average of seven years for general-stream teachers. At large schools, the average for Islamic-studies teachers was nine years, with six years for general-stream teachers. It was found that the teaching experience of Islamic-studies teachers showed a higher average than that of general-stream teachers.

Factors affecting scholastic achievement

Results from the discriminant analysis are shown on Table 2.

From the results of discriminant analysis, it was found that only the first function was statistically significant, with a canonical correlation value of 0.294, a Wilks' lambda value of 0.990, and an eigen value of 0.094. However, upon analysis using Roy's criterion, it was found that the discriminant variate (D.V.) could explain the grouping variance at only 8.59 percent—a rather low value—with a group centroid average of −0.544 for the group of students with low scholastic achievement, 0.010 for the group of students with moderate scholastic achievement, and 0.541 for the group with high scholastic achievement.

For the labeling of such discriminant variates based on the correlation values (R) between discriminant variates (D.V.) and original variables (X) (Hair et al., 2006, p. 329), it was

Table 2 – Test of significance for discriminant analysis

Function	Eigen value	% of variance	Cumulative %	Canonical correlation	Wilks' lambda	Chi-square	df	p – value
1	0.094	86.2	86.2	0.294	0.990	94.074	40	0.000

found that two original variables correlated highly with a discriminant variate: O-NET scores ($R = 0.757$) and remedial teaching ($R = 0.322$). Thus, this discriminant variate was called **reinforcement teaching**.

The discriminant function obtained was tested for accuracy of group discrimination by means of posterior probability of group membership (see Table 3).

It was found that among the 150 students with low scholastic achievement (G.P.A. below 2.00), 80 were accurately predicted, or 53.3 percent, that among 616 students with moderate scholastic achievement (G.P.A. between 2.00 and 2.99), 208 were accurately predicted, or 33.8 percent, and that among 140 students with high scholastic achievement (G.P.A. of 3.00 and above), 80 or 57.1 percent were accurately predicted. This indicated that as a whole, the discriminant function obtained could accurately discriminate 368 students out of 906 students making up a 40.6 percent cluster of scholastic achievement of the students at Prince of Songkla University who had graduated at upper secondary level from the private school with Islam instruction in the three southern border provinces. Thus, it may be concluded that the discriminant variate obtained could effectively discriminate only the superior group and weak group of students but was low in discriminant power regarding the moderate group of students, as its accuracy of discrimination was only 33.8 percent.

Administrators' opinion

The results of interviewing the school administrators indicated that the administrators expected students to continue more at state universities than at private universities. However, the students themselves made the decision with counseling from their guidance teacher, with the students wishing to continue at state universities expressly making known their desire and preparing themselves from the time they began Secondary Grade 4. Their guardians' attitude and support also affected their decision on further studies, where students with high-income guardians tended to continue

their studies at a university more than those with low-income guardians, and most wanted to continue in the general stream rather than the religious stream. For students in the southern-border provinces, Prince of Songkla University was favored over other universities, as there existed confidence in the quality of the instruction at this university, plus the fact that the university's location in the south made it comparatively economical relative to other universities in Bangkok or other areas. The administrators would like the government to provide more scholarships so that students from low-income families could afford to continue at university level on a near-equal footing with students from high-income families.

Extra educational opportunities such as remedial teaching or special educational projects were provided somewhat at large schools, while none were available at small schools due to financial constraints. The administrators would like outside agencies to provide extra activities such as various academic camps during term breaks, or the provision of resource persons for intensive tutoring or accelerated instruction to assist students at private schools with Islam instruction in gaining as much access to university education as do graduates of state schools.

Discussion and Conclusion

Based on the correlation coefficient values between the discriminant variates and the original variables where it was found that the variables most highly relating the discriminant variates were O-NET scores and remedial teaching, this discriminant variate may thus be called **reinforcement teaching**.

Regarding research findings, it may be said that O-NET scores make up the variate that can best discriminate groups, which Lincharoen, Artwichai, and Jan-in (2009, p. 2) termed the "Ordinary National Education Test." Generally called O-NET, it is a basic national test of education in response to the policy of the Ministry of Education that

Table 3 – Classification matrix

Actual group	Number of samples	Predicted group		
		Low scholastic achievement	Moderate scholastic achievement	High scholastic achievement
Low scholastic achievement	150	80 (53.3%)	41 (27.3%)	29 (19.4%)
Moderate scholastic achievement	616	215 (34.9%)	208 (33.8%)	193 (31.3%)
High scholastic achievement	140	32 (22.9%)	28 (20.0%)	80 (57.1%)
Total	906			

Remark: Of the original 918 samples (see Table 1), data from the private schools with Islam instruction of 12 students were not available. Therefore, only data on 906 students were analyzed

prescribes a test of the national comprehensive outcome of learning in connection with the process of fundamental education. For students of Secondary Grade 6, a test result or score is not only an indicator of the quality of instruction but may serve as a component in selecting an applicant for university. From study, it was found that for students at the same school, those with high GPA's would tend to have high O-NET scores, while students with lower achievement would have low O-NET scores, as the school environment affects scholastic achievement or the O-NET test result. The environment of each school varies with the school's basic characteristics. This means that at small or large schools with a great deal of academic competition, most students of these schools—nearly 90 percent—are determined and enthusiastic, with much emphasis on the O-NET test, resulting in high O-NET test performance to the satisfaction of teachers at those schools. From several pieces of research, it was found that O-NET and A-NET test scores were indicators of learners' knowledge and of scholastic achievement, the scores in part revealing the ability in academic performance at the higher education or university level in the course of learning at a higher level. The lack of a good foundation at secondary level was bound to be an impediment to future success in learning. In addition, academic failure was usually found among such students seeking university entrance, as they obtained low test scores with low ability and knowledge regarding some substance groups such as science and mathematics (Bunluea, 2006). The current research findings are in agreement with the research by Wattana-narong, Pinyo-angantapong, and Lurnpukawat (2006) who found that the weighting of GPAX, GPA, O-NET, and A-NET scores in the selection of university entrants related to the achievement and scholastic success of students in higher education, and that a subjective test should be reconsidered for use again for knowledge measurement by setting a clear scoring criterion for each course of study. From a study of academic achievement among first-year students at Chulalongkorn University who were selected by the admission system based on O-NET and A-NET scores for each subject, many students were placed on probation and dropped out because of low academic knowledge, for example, low scores in science and mathematics, causing the students' GPA's to suffer and they failed to meet the standard criterion set by the faculties concerned (Lerthirun, 2009). This is in agreement with the research by Sa-nguanrungrasirikul (2011) on the prediction of the scholastic achievement of the students of Thonburi King Mongkut University of Technology who were selected by the admission system. It was found that being able to predict scholastic achievement involved placing a high value on basic O-NET scores and PAT scores, as these two variables related to first-year scholastic achievement at moderate to high levels. The scores from the two tests reflected the test-takers' direct achievement, and so the tests reflected the test-takers' true knowledge and ability, as did the test of first-year scholastic achievement.

Remedial teaching is a factor likewise affecting at statistically significant level the discrimination of scholastic achievement at Prince of Songkla University of the students completing upper secondary education at the private

schools with Islam instruction in the southern-border provinces. In this connection, Uthaisuk (1980, p. 3) states that remedial teaching is meant to correct deficiencies and reinforce new learning skills for students and usually provided for children needing special help as well as for superior children to excel further. The reason for remedial teaching is to correct children's deficiencies from the beginning. Practicing new skills will give children a proper foundation for further skill practice. Weak students must be helped to catch up with fellow students, while superior students must be helped to the utmost of their ability. This is in harmony with Nakyaem (2002), whose remark on remedial teaching is that it helps to correct weak students' deficiencies and to further superior students' scholastic performance to the best of their potential, the result being to raise a learner's achievement to the best possible level of the learner's capability. The Department of Curriculum and Instruction Development (2002, p. 19) also stresses the importance of remedial teaching by stating that remedial teaching is held to be part of the process of instruction in the conduct of instruction as prescribed by a curriculum. Supasirirut (2008, p. 29) states that the core curriculum of fundamental education of B.E. 2551 requires an educational institution to provide remedial teaching to develop a learner's learning to full potential. Remedial teaching is meant to correct deficiencies where a learner does not possess knowledge, process skill, or attitude/quality commensurate with the criteria of any educational institution concerned. An educational institution must provide remedial teaching as a special case above normal teaching to enable a learner to attain a given standard of learning/indicator. This is to provide an opportunity for a learner to learn and develop through a variety of learning activities in response to individual differences. Such findings are in agreement with the research by Pongpan (2010) about remedial teaching in science for grade-four students with low scholastic achievement. It was found that the students were better able to do exercises with fewer errors, that the students became better developed in science, and that the students who did quite well were interested in developing themselves further.

In addition, numerous pieces of research show the efficiency of remedial teaching in increasing a learner's scholastic achievement. For example, Bun-ampai (1997) found remedial teaching using the Internet enhanced the scholastic achievement of students of Sukhothaidarmadraj University to a higher level than that of a group without remedial teaching, while Po-ta-won (1999) tried reinforcement teaching in mathematics by means of the Balka way of thinking for students of Secondary Grade 4, and found that the students achieved more in mathematics than the set criterion of 85 percent. Bootchan (2009) tried reinforcement teaching by means of a self-control mechanism on undergraduates of the Faculty of Education, Chulalongkorn University, and found that the students of this particular group had higher scholastic achievement than another group without such learning at a statistically significant level. Thus, it may be said that reinforcement teaching clearly enhances scholastic achievement for learners at every level of education.

Recommendations

Based on the findings, the following recommendations are proposed.

1. The results of the discriminant analysis indicated that O-NET scores and remedial teaching within a school had a statistically significant effect on scholastic achievement in the university with regard to students from the private schools with Islam instruction in the southern-border provinces, as these students had little opportunity to acquire knowledge from sources other than those provided at school. Thus, the schools should add more programs of education in various forms—either remedial teaching or extra teaching—to enhance the students' potential for O-NET testing as well as to affect the students' scholastic achievement upon continuing at Prince of Songkla University.
2. From the suggestion obtained from the administrators' interview, the Ministry of Education should make a special effort to find the means to assist in the instruction at the schools with Islam instruction both in recruiting expert teachers of certain learning substances to benefit especially university entrance examination for students of these schools, and to provide support for students to be able to participate in academic camps set up by various educational institutions. Scholarships should also be allocated either as loans or gratis for a larger number of students to attend the university.
3. As the administrators who provided the data by interview mostly came from large schools and the administrators of small schools did not respond to the request for an interview, more research should be conducted on the development of instruction at small schools to bring the efficiency of instruction at these schools to the same level as that of large schools.

Conflict of interest

This should be conducted with permission from administrators of small schools.

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