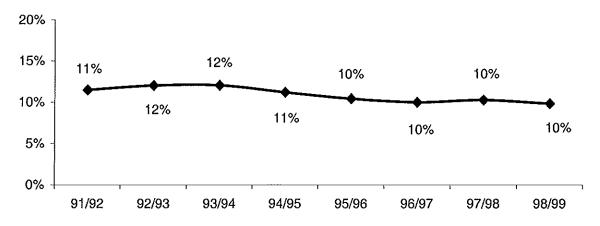


# ANNUAL EFFECTIVENESS REPORT ON THE COLLEGE'S DEVELOPMENTAL EDUCATION PURPOSE

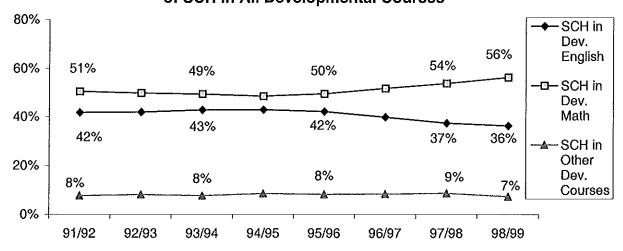
1999/00 Preliminary Report

Prepared by:
Andrea Taylor Butts for
The Office of Institutional Research
Fall 1999/ Winter 2000

Student Credit Hours (SCH) in Developmental Education Courses as a Percentage of SCH in all Credit Courses



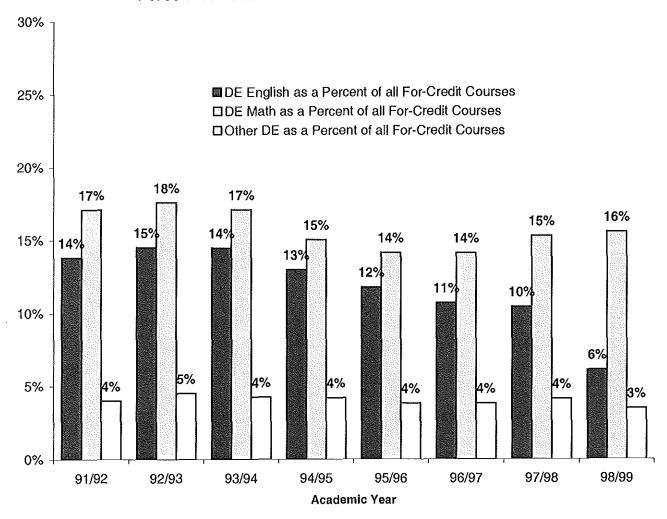
SCH in Developmental English, Math & 'Other' as a Percentage of SCH in All Developmental Courses



Courses which fall into the 'developmental education' category make-up about 10% of all credit hours taken at OCC ( *see Graph1*). Of these developmental courses, Math tends to be the most fruitful in terms of SCHs. For instance, during the 1991/92 academic year, 59, 616 of the year's 518,988 SCHs came from developmental education courses. As **Graph 2** illustrates, in 1991/92 enrollment in Math accounted for 30,115 or 51% of the developmental education credit hours, 42% or 24,890 SCHs came from English and the remaining 8% of SCH in developmental education were the result of enrollment in the 'Other' courses that fall under the developmental umbrella.

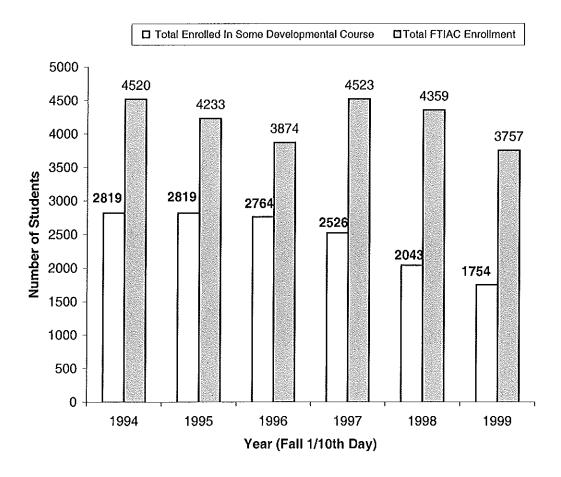
Courses in developmental Math continuted to represent the largest portion of SCHs for all developmental education courses combined. In fact, by 1998/99, 56% of SCHs in developmental-level courses were now in Math, while just 36% were in English and 8% in 'Other' developmental courses.

### Student Head Counts in Developmental Education Courses as a Percent of Total Head Count in all For-Credit Courses



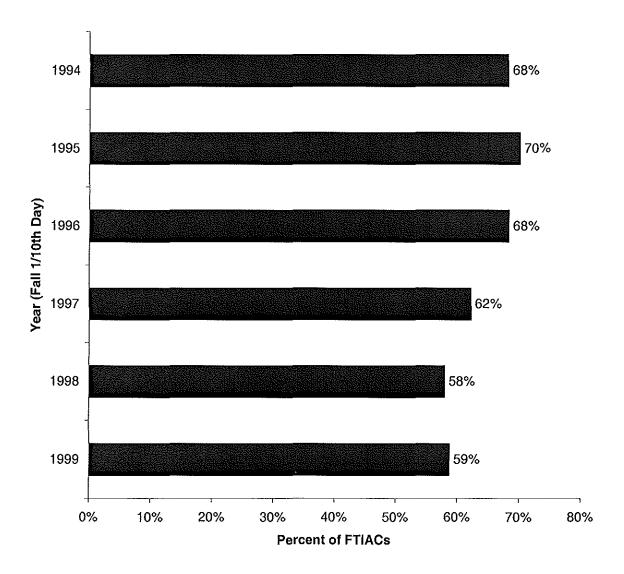
On average, approximately 16% of OCC students enroll in a developmental Math course, and until the 1998/99 academic year, about 13% took a developmental English class. However, in 1998/99 there was a significant decline from the previous year, and developmental English courses went from constituting 10% of all head counts in 1997/98 to representing just 6%. And while enrollments in developmental Math have been relatively stable over the 8 academic years represented above, there has been a steady decline in the number of students enrolling in developmental English. There is little fluctuation in the number of students who chose to enroll in only the alternate developmental education classes.

### **FTIAC Enrollment in Development Courses**



Until recently, enrollment in courses classified as 'developmental' has remained relatively consistent. Developmental education comprised just over 60% of Fall enrollment among FTIACs, during the Fall of 1994 until Fall 1997. In the Fall of 1994, 62% of 'first time in any college' students took a Developmental Education course -- for the same period in 1995, this figure rose to 67%, in 1996 it was up to 65% and in 1997 61% of FTIACs took a course from the Developmental curriculum. However this trend changed in the Fall of 1998, when the percentage of FTIACs taking Developmental Education classes fell to only 47%, where it remained in Fall 1999. This decline is largely due to a drop in enrollment in Developmental English courses among FTIACs (i.e., In Fall 1997, 33% of FTIACs were enrolled in Developmental English, but in Fall 1998 21% were, and in Fall 1999 only 20% of FTIACs took a developmental English).

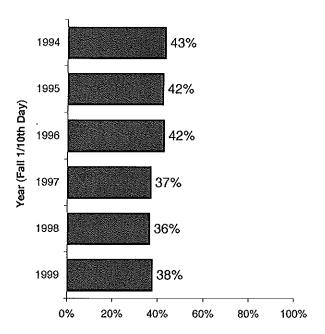
# Percentage of FTIACs Takeing ASSET Writing and Reading Skills Tests



NOTE: The decline the percentage of students taking Writing and Reading Skills ASSET in 1998 and 1999 co-incides with the change in OCC policy to accept students' ACT and SAT scores in lieu of ASSET.

Graph 1

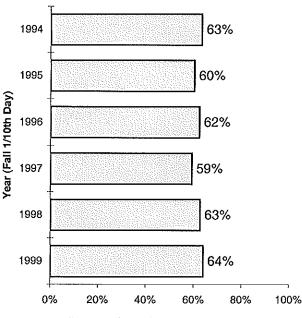
#### Percentage of <u>All</u> FTIAC\* Students Who Scored at a Developmental Level on ASSET\*\* Writing & Reading Skills Tests



Percent of All FTIACs Testing at a Developmental Level

#### Graph 2

# Percentage of FTIACs <u>Tested</u>, Who Scored at a Developmental Level on ASSET Writing & Reading Skills Tests



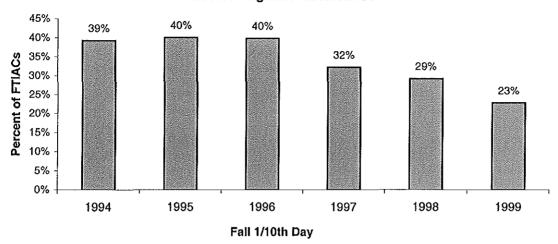
Percent of FTIACs <u>Tested</u>, Scoring at a Developmental Level

Over the six academic years beginning in Fall 1994 until Fall 1999, the number of 'first time in any college' (FTIAC) students declined from 4520 to 3757. Over this same period, there was also a decrease in the number of FTIACs who qualified for remediation in English. In Fall 1994, 43% of all FTIACs qualified for placement in developmental English, and by the Fall of 1999, this figure had dropped to 38% (*see Graph 1*). However, there has also been a small (about a 10%) decline in the number of FTIACs who actually took the Writing and Reading Skills ASSET test. In the Falls of 1994, 1995 and 1996, 68-70% of all FTIACs took the ASSET test for English placement. However, during the Fall of 1997 only 62% of FTIACs completed the writing and reading skills ASSET test. By 1998, this figure had further decreased to 58% and similarly in Fall '99, 59% of FTIACs wrote the English portion of ASSET. Among those students tested, the percent earning a combined score of 85 or less has remained relatively consistent, ranging from 59% to 64% over the six years ( *see Graph 2*). Thus, the apparent drop in the proportion of Developmental English candidates among FTIAC students is attributable, in part, to a reduction in the proportion of these students being tested.

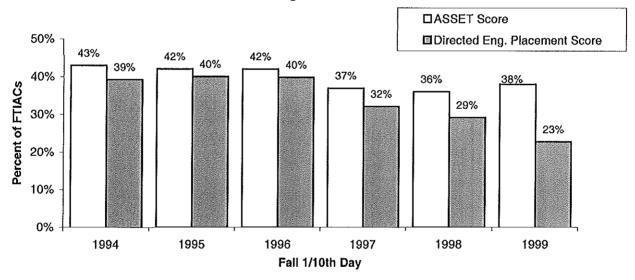
<sup>\* &#</sup>x27;First Time In Any College'

<sup>\*\*</sup> Calculations based on combined Writing and Reading Skills ASSET (Assessment for Successful Entry and Transfer) test scores of 85 or less.

#### FTIACs Who Qualify for Developmental English: Directed English Placement Score 1 or 2

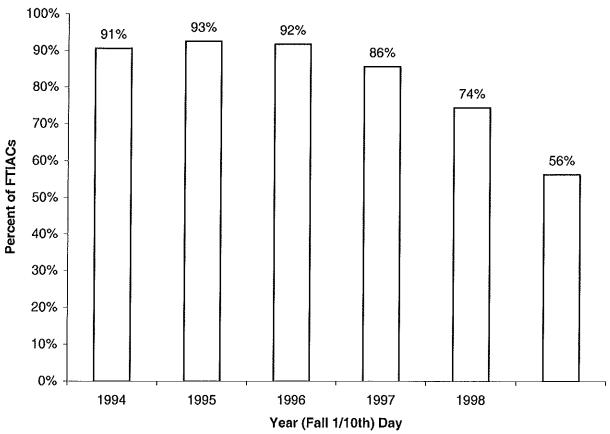


#### FTIACs Directed English Placement vs. ASSET Scores



A Directed English Placement score of 1 or 2 indicates that a student is required to complete Developmental English course(s) before she/he can enroll in college-level English. A score of '1' represented placement in ENG 052 and a '2' placement into ENG 131 until Fall 1998. Starting in Fall of 1998, ENG 105 replaced ENG 052 ( as well ENG 050, ENG 054, ENG 055, & ENG 056) and ENG 131 (and ENG 110) was replaced by ENG 106. A score higher than '2' indicates placement in college-level English. Not surprisingly, the 1994-1999 trend in the percentage of FTIACs placing in Developmental English parallels the trend in FTIAC ASSET scores over the same time period. However, there has been a growing disparity between the percentage of FTIACs testing at the developmental level and the percentage who are placed there. Between 1994 and 1997, this difference only ranged between 2 and 5%. In the Fall of 1998, there was a 7% difference between the percentage of FTIACs with developmental ASSET scores and those who were actually required to enroll in Developmental English prior to taking ENG 151. By Fall 1999, the difference between these figures grew to 15%.

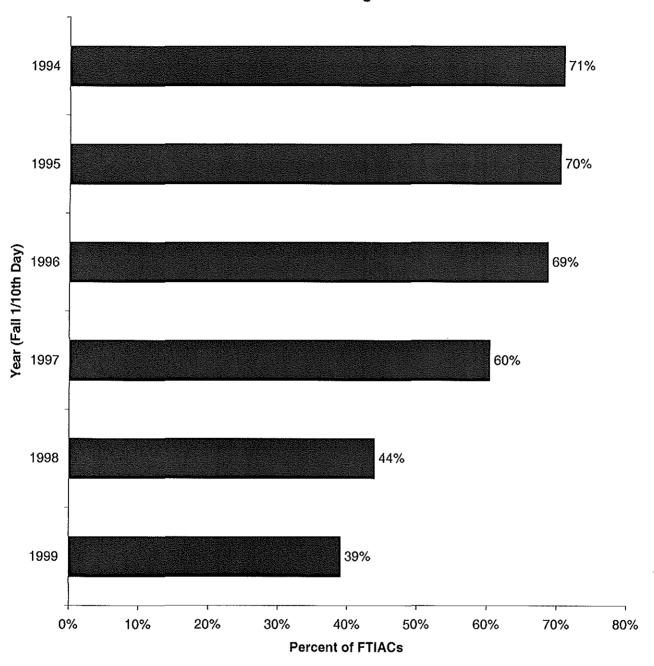
# Percentage of FTIACs who Tested at Developmental Level on ASSET and also Received Directed English Placement Scores of 1 or 2



An alternate way to understand the difference between the percentage of FTIACs who qualify as Developmental English students according to their ASSET results, versus the percentage who are assigned developmental Directed Placement scores is the look at the first group as a percentage of the second. So for instance, bar one in the graph above demonstrates that in Fall 1994, 91% of all FTIACs who earned a combined score of 85 or less on the English component of ASSET were also given a Directed English Placement score of 1 or 2, thereby putting them into ENG 105 or ENG 106.

Between Fall 1994 and 1997, an overwhelming majority of FTIACs who tested at the developmental level on ASSET, also received Directed English Placement scores which required them to take a Developmental English prior to enrolling in college-level English. In fact, very few (less than 1%) of these FTIACs received Directed Placement scores which placed the out of Developmental English and into college-level English. However, a notable change to this pattern occurred during the Fall of 1998. In 1998, there was only a 74% concordance rate between the number of FTIACs with developmental ASSET and Placement scores. Additionally in the Fall of 1998, 16% of FTIACs who scored at the developmental level on ASSET subsequently received Directed English Placement scores which placed them into college-level English. In 1999, even more FTIACs were disqualified from Developmental English after initially scoring within the developmental range on ASSET. Among Fall 1999 FTIACs, only 56% of those originally classified as developmental were assigned an English Placement Score of 1 or 2. Further, 27% of this group of FTIACs were actually placed out of developmental English and into a college-level English.

### **Percent of FTIACs Taking Math ASSET**

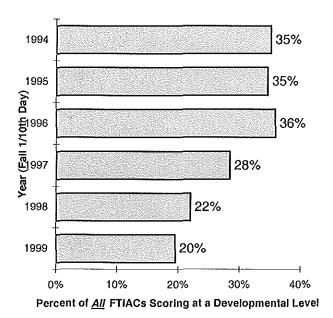


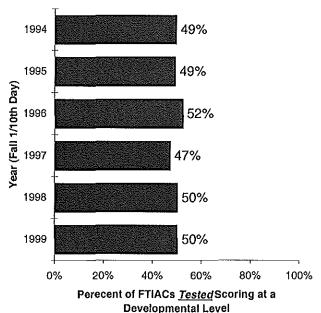
Graph 1

FTIAC\* Students Who Score at a Developmental Education Level on the Math ASSET\*\* Test as a Percent of <u>ALL</u> FTIACs

Graph 2

### FTIACs Scoring at a Developmental Level on Math ASSET as a Percentage of those <u>TESTED</u>.



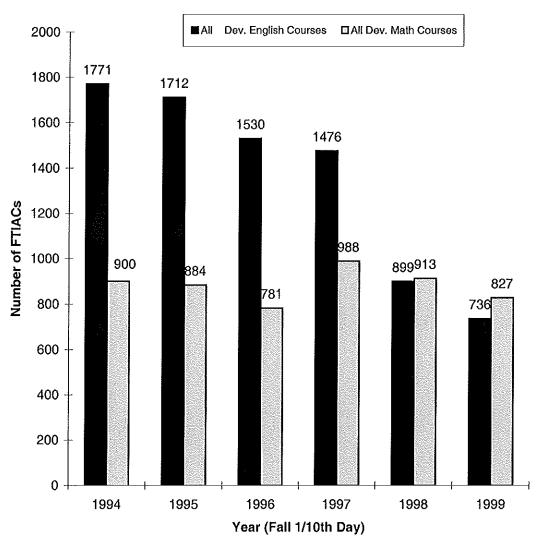


In the fall of 1999, the various components (Numerical, Elementary Algebra, Intermediate Algebra) of the Math ASSET test were administered to 1467 or 39% of all FTIACs. This figure is a notable 32% below the 1994 percentage, when 71% of all FTIACs completed at least one section of the Math ASSET test. Thus, fewer FTIACs were tested in absolute as well as relative terms. Along with a declining proportion of FTIACs being tested, there has necessarily been a corresponding reduction in the overall percentage of all FTIACs who might qualify for developmental mathematics (see Graph 1). However, what has remained almost unchanged between the Falls of 1994 and 1999, is the proportion of those tested who received a score that would suggest the student consider taking a developmental math course. As Graph 2 illustrates, in 1994, 49% of FTIACs scored at this level as did 50% of Fall '99 FTIACs. What this signifies is that the decline in the percent of all FTIACs who might benefit from developmental math instruction is due to the decline in the proportion of students who have been tested, not any improvement in student performance.

<sup>\* &#</sup>x27;First Time in Any College

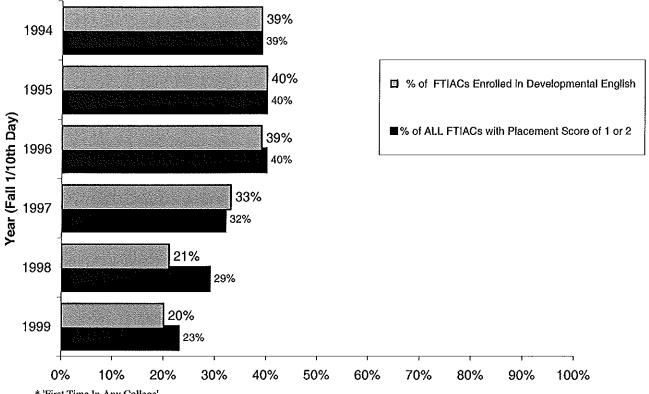
<sup>\*\*</sup> Calculations based on a Numerical Skills ASSET (Assessment of Skills for Successful Entry and Transfer) test score of 36 or less, Elementary Algebra ASSET score of 39 or less, & Intermediate Algebra score of 37 or less.

#### FTIAC Enrollment in Developmental English & Math



In Fall 1994, 62% of all FTIACs were enrolled in at least one developmental education course. By 1999, only 47% of FTIACs were taking some developmental class during the fall term. Among the FTIACs taking a developmental course during the fall terms of 1994 through 1997, developmental English enrollment significantly exceed enrollment in Math and the 'Other' developmental courses. From Fall 1994 until1997, 33% to 40% of FTIACs took a developmental English course. (Interestingly, this trend is the reverse of the college-wide enrollment trends in developmental course, where developmental Math enrollment tends to exceed that of developmental English.) However, the popularity of Math began to at least equal that of English among developmental FTIACs as of Fall 1998. In the fall of 1999, enrollment in developmental Math by FTIACs (22% of all FTIACs) slightly exceeded enrollment in developmental English courses (20% of all FTIACs).

# FTIAC\* Students Who are Placed at a Developmental Level\*\* & the Percentage Who Enrolled in a Developmental English Course



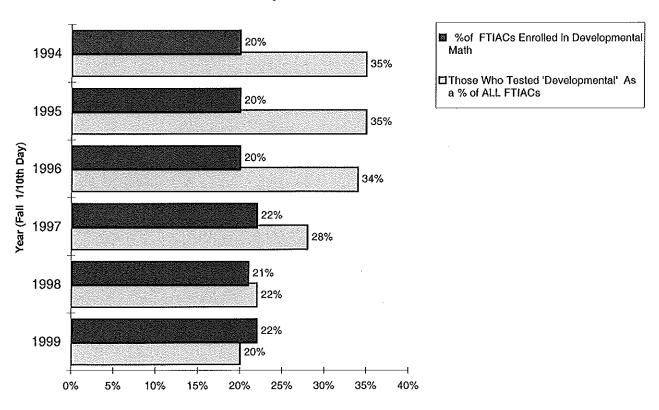
<sup>\* &#</sup>x27;First Time In Any College'

Not all students who test and are placed at a developmental level will go on to enroll in developmental English; (Similarly, not all those enrolled in developmental English will have necessarily tested at a developmental level). However, given the mandatory placement process for English, one would expect to find a degree of correspondence between the percentage of FTIACs qualifying for placement in development English and the percentage of FTIACs who enroll. Until 1998, there was a very close correspondence between the percentage of FTIAC students who were placed in developmental English and the percentage of FTIACs who enrolled in a developmental English course.

From 1994 to 1997, there was a 0-1% difference in the percentage of FTIACs who qualified for developmental English courses and the number who signed-up for a developmental English class. In 1998, this differential between the number of FTIACs placed at the developmental level compared to the number who actually took an English course that Fall, grew to 8%. In 1999, however, this disparity shrunk to just 3%. This recent increased discrepancy between placement versus enrollment may be explained by the notion that more developmental English candidates are waiting, at least until the next semester, to enroll in their developmental English course. It is also possible that more students are being disqualified from developmental English through the placement process accompanying the new Academic Literacy program implemented in Fall '98. Whatever the reason, more long-term tracking of this trend is needed before any definitive causal attributions can be made.

<sup>\*\*</sup> Qualification for Dev. English based on Directed English Placement Score of 1 or 2.

### Percentage of FTIAC\* Students Who Enrolled in a Developmental Math Course

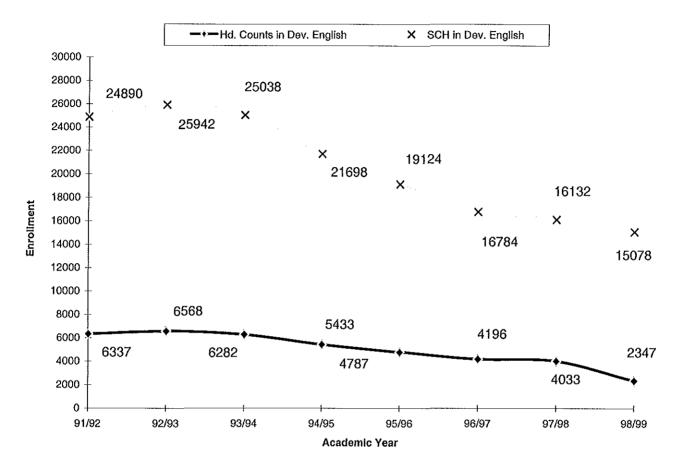


<sup>\* &#</sup>x27;First Time In Any College'

Unlike English, there is no formal placement process for Math. Students are free to enroll in any Math course, irrespective of how well they perform on their ASSET tests. Therefore, there is a very low expectation of correspondance between the percentage of FTIACs who score at the developmental level on Math ASSET and the percentage of FTIACs who enroll in a developmental Math course. From the Fall of 1994 until the Fall of 1999, as the proportion of FTIACs obtaining a score that would make them a candidate for developmental Math declined, the percentage enrolling in a developmental Math course remained fairly steady, around 20%. Superfically it would appear that since 1994, larger proportions of students qualifying for developmental Math are actually going on to enroll in these types of courses. However, recall that over this same time period, there has also been a sizable (32%) drop in the percentage of FTIACs taking the Math ASSET. Thus, the apparent reduction in the disparity between developmental candidacy and actual enrollment among FTIACs is most likely due to the artifically deflated percent of candidates that the shrinking test pool has yielded, and not any increased tendency among candidates to enroll.

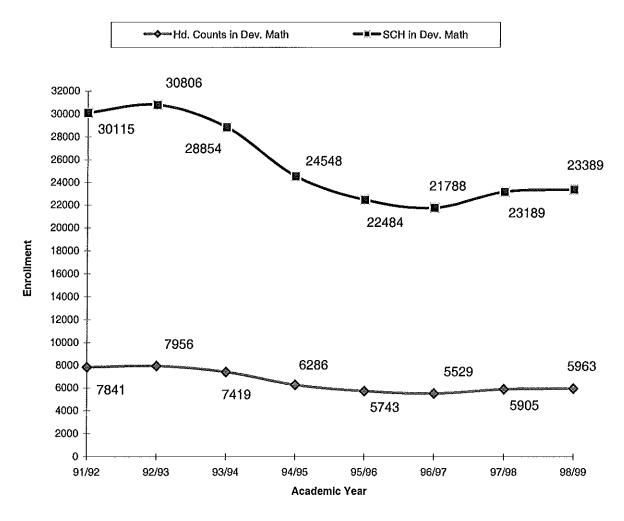
<sup>\*\*</sup> Calculations based on Numerical Skills ASSET (Assessment for Successful Entry and Transfer) test scores of 36 or less, Elementary Algebra ASSET score of 39 or less, & Intermediate Algebra score of 37 or less.

### Enrollment in Developmental English Courses Student Head Counts and Student Credit Hours



Like general trends in enrollment at OCC as a whole, enrollment in Developmental English Courses has dropped since 1991/92. Student Head Counts in developmental English went down by 42% between 1997/98 and 1998/99 alone, and diminished by a total of 63% over the 8 years from 1991/91 and 1998/99. There has also been a more modest decline of 39% in the number of Credit Hours in developmental English courses. On average, the number of Credit Hours per student remained the same from 1991-92 until 1997/98, with a Student Credit Hour to Head Count ratio of 4 to 1 throughout this 7 year period. However the ratio of SCH to Head Counts increased to 6.4 to 1 in 1998/99. In 1991/92, 42% of all Student Credit Hours in Developmental Education courses were in English. By the 1998/99 academic year, this figure had dropped to 36%.

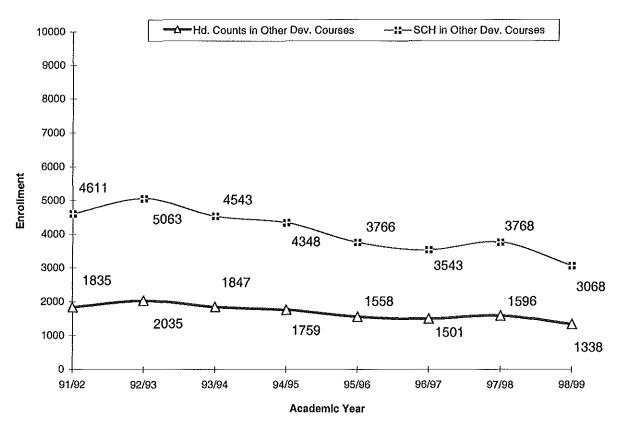
## Enrollment in Developmental Math\* Courses Student Head Count and Student Credit Hours



<sup>\*</sup>Includes Pre-Apprentice/Math TEM 101 & TEM 102

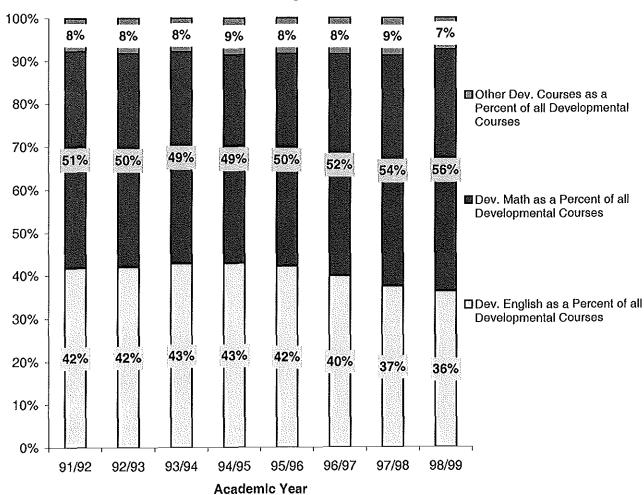
Similar to overall enrollment trends between 1991/92 and 1997/98, Student Credit Hours (SCH) and Head Counts in developmental Math courses were on a general decline. However, the 1998/99 academic year saw a slight (1%) increase in enrollment in developmental Math courses. In the 1991/92, Math courses represented 51% of all SCHs in developmental education, but by the 1998/99 academic year, SCHs in Math constituted 56% of all Student Credit Hours in developmental courses. The ratio of student credit hours to head count has remained almost 4 to 1 throughout the 8-year period from 1991/92 to 1998/99.

### Enrollment for all Other Developmental Education Courses Combined Student Head Count and Credit Hours

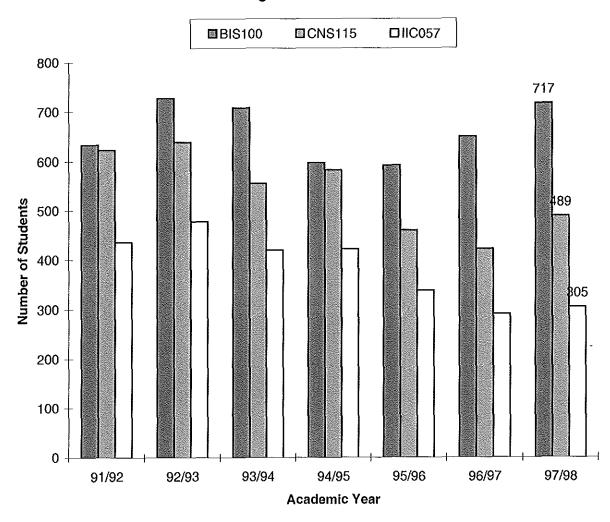


Enrollment in other courses classified as Developmental (other than English and Math) continues to decline at a moderate rate. These 'Other' Developmental Education courses may include: Keyboarding (BIS100), Basic Chemistry (CHE095), Orientation to College (CNS110), Human Potential (CNS114), Career Planning (CNS115), Personal Assertiveness (CNS116), College Success Skills (IIC057), Information Research Methods (LIB100), and Basic Speaking and Listening Skills (SPE100). Keyboarding, Career Planning and College Success Skills are the most popular among these Developmental Education courses. Combining the Student Head Counts for all of these 'Other' Developmental Education, a decrease of 27% from 1991/92 to 1998/99 is seen. Over the 8 academic years, Student Credit Hours for this collection of Developmental Education courses have dropped at a slightly greater rate of 33%. Clearly, Other Developmental Education courses are less popular than Developmental English and Math. The Student Credit Hour to Head Count ratio for this type of Developmental Education course is about 2 to 1. In 1991/92 these courses have comprised between 8% of the SCHs for all Developmental Education courses and similarily in 1998/99, this figure was 7%.

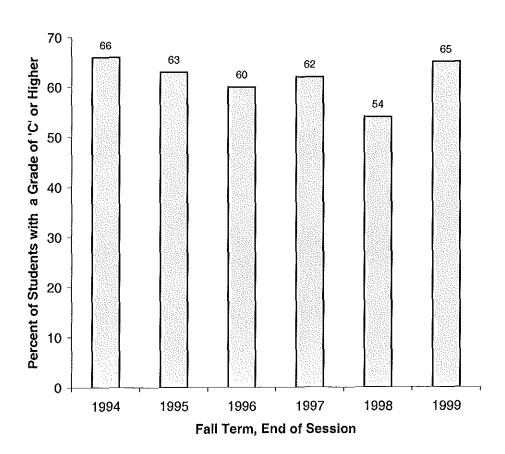
### Allocation of Student Credit Hours Across Developmental Education Courses -- English, Math & 'Other'



### Most Popular Informal Developmental Education Courses: Student Head Counts for Keyboarding, Career Planning & College Success Skills

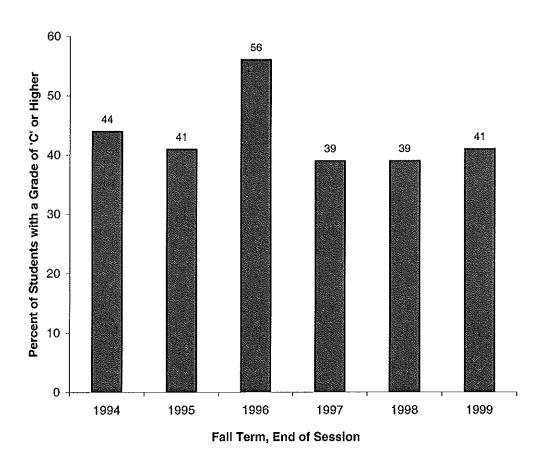


### **Developmental English: Percent of Satisfactory Completions**



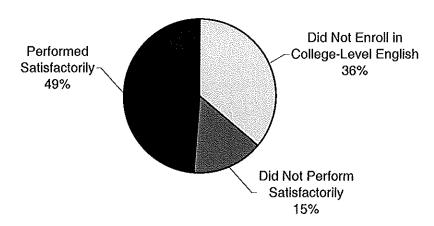
Earning a grade of at least a 'C' constitutes satisfactory performance in a course. Looking at the Fall terms between 1994 and 1999, overall student performance in Developmental English has fluctuated but appears to be on a general downward trend. Over these 5 terms, an average of 61% of students originally enrolled in a Developmental English course, received at least a 'C' in the course. Student performance was best in 1994 when 2031 or 66% of students obtained a grade of 'C' or higher. Conversely, 1998 saw the worst level of achievement among students enrolled in Developmental English classes -- only 743 or 54% performed at a satisfactory level. However, by Fall of 1999 satisfactory completion rates were back up to 65%. It should be noted, that the figures above represent the percentage of 'C' or better students as a percentage of all students enrolled as of the 1/10 day -- Even those who may have eventually withdrawn or received an incomplete in the course.

### **Developmental Math: Percent of Satisfactory Completions**



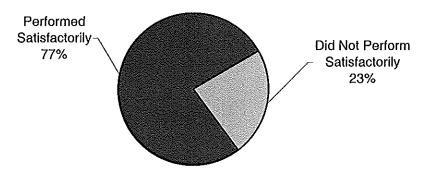
The proportion of students receiving a 'C' or better in their Developmental Math course remained relatively low but stable between the 1994 and 1999 fall terms. During this 6 year time period, an average of only 43% of students registered in a Developmental Math class performed at a satisfactory level, earning at least a 'C' in the course. Looking across the fall semesters from 1994 until 1999, a peak in performance in Developmental Math is seen during the Fall of 1996. In 1996, over half (56%) of the grades awarded to students in a Developmental Math course were at the satisfactory level or higher. Once again it should be noted, that the figures above represent the percentage of 'C' or better students as a percentage of all students enrolled as of the 1/10 day -- even those who may have eventually withdrawn or received an incomplete in the course.

Subsequent Enrollment of Former Developmental English Students in College-Level English



Almost 2/3 of the students who completed developmental English courses with a 'C' or higher, proceeded to enroll in a college-level English course. Furthermore, 54% of these students enrolled in their non-developmental English class the first subsequent semster following their developmental course. Of the FTIACs who satisfactorily completed developmental English, 67% moved into a non-developmental English course, while only 60% of Non-FTIACs did so.

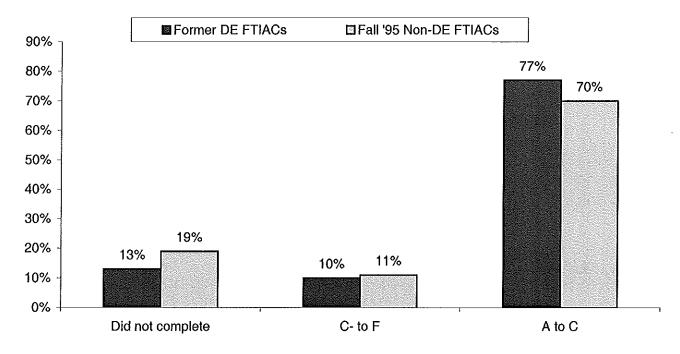
Subsequent Success of Former Developmental Students who Enrolled in College Level English courses.



Over 3/4 of former Development English students who advance to a non-developmental course completed that course with a grade of 'C' or higher. The figures above are based on students' initial performance in their first non-developmental English course. However, 60% of students who did not earn a 'C' or better in their first non-developmental English class, re-enrolled and eventually passed at at least a satisfactory level. Therefore, if students who initially failed to reach a satisfactory level of performance, but eventually did so are included, the 'satisfactory performance' rate increases to 84%.

FTIACs earned satisfactory grades at a greater rate than non-FTIACs. In particular, 77% of FTIACs compared to only 75% of non-FTIACs earned at least a grade of 'C' in their first non-Developmental English courses. However this difference was not significant in any statistical sense. Both groups shared an equallikelihood of completing their non-developmental English classes.

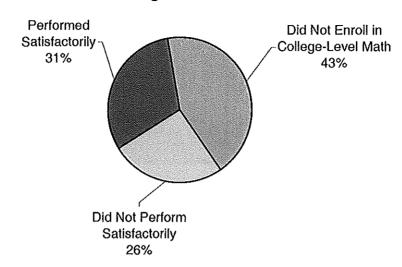
# Completion Rates of Non-Developmental English Courses by Former Developmental Students vs. Non-Developmental Students



In the Fall of 1995, 70% of 'First Time in Any College' (FTIAC) students took the two components of English ASSET, Language Use and Reading. When the scores from these two portions of ASSET combine to total 85 or less a student is required to enroll in a developmental level English course. Of the students tested, 60% were placed in Developmental English. This figure constitutes 42% of all FTIACs who were enrolled during the Fall '95 semester. And of all the first-timers enrolled that term, only 20% took a pre-college level English class.

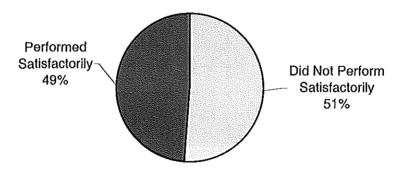
To measure the effectiveness of Developmental English in preparing students for later success in college-level English, the grades of a representative sample of Fall '95 FTIACs who completed a developmental English course with a 'C or higher', were compared to a sample of Fall '95 FTIACs who went directly into college-level English. If the Developmental courses are successful, former Developmental English students should perform at least as well as students who did not require such courses. Overall, the former Developmental English FTIACs were <a href="more">more</a> successful than FTIACs who did not take a developmental English but went directly into ENG 151. Former Developmental English students were significantly more likley than non-Developmental students to perform at a 'satisfactory' level by earning at least a 'C' in their college-level English course. FTIACs who successfully completed a developmental English course prior to enrolling in college-level English were also more likely to complete their non-developmental English course than are non-Developmental students. There was no statistically significant difference between the two groups and their chances of receiving grades in 'C- to F' range.

# Subsequent Enrollment of Former Developmental Math Students in College-Level Math



Fifty-seven percent of students who earned a satisfactory grade ('C' or better) in their developmental Math course, taken in Fall '95, went on to a college-level Math. Of the FTIACs who had successfully completed a developmental Math course, 65% enrolled in MAT 114/115. Non-FTIACS were slightly less likely to move into college-level Math with 54% enrolling in a non-developmental Math course after satisfactorily completing their developmental course.

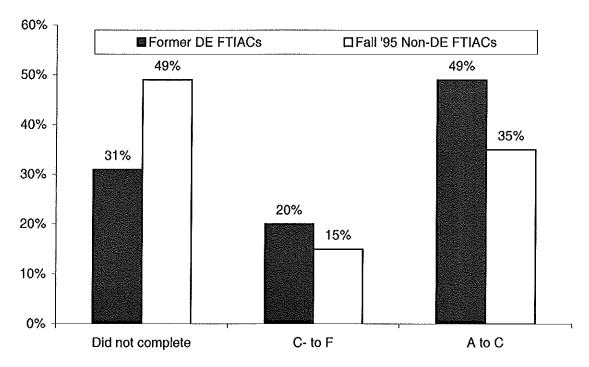
### Subsequent Success of Former Developmental Students who Enrollemd in College Level Math Courses



Of the former developmental Math students who did enroll in MAT 114/115, more than half earned at least a 'C' in their college-level course. Further, of those who enrolled but were not initally successful, 22% re-took their college-level Math and eventually earned a grade of 'C' or better, thereby bringing the 'Satisfactory Completion' rate up to 64%.

Overall, Non-FTIACs (66%) were slightly less likely than FTIACs (69%) to complete MAT 114/115. However, only 49% of FTIACs performed at a satisfactory level, but 54% of Non-FTIACs earned at least a grade of 'C'. Nevertheless, these differences between first-timers and non-first-timers were not statistically significant.

# Successful Completions of Non-Developmental Math Courses by Former Developmental Students vs. Non-Developmental Students



In the Fall of 1995, 70% of 'first time at any college' (FTIAC) students took the Math ASSET. Approximately half of these FTIACs tested at a level that would be considered appropriate for enrollment in a pre-college level Math course. These students represented 35% of all first time students. However, in 1995 only 20% of first time students enrolled in a developmental Math course.

Looking at the success of former developmental Math students versus that of their non-developmental peers, interestingly, individuals who were once Developmental Education students utlimately out-performed their non-Developmental counterparts. For this analysis, first-time students from the Fall of 1995 were divided into two groups: those who immediately enrolled in college-level Math (MAT 114 or MAT 115) and those who *first* enrolled in a developmental level Math (MAT 104/111, MAT 105, MAT 107/101 or MAT 110) course, prior to taking a college-level Math course. A 30% sample was randomly drawn from both groups. A comparison of these two groups revealed that a former developmental Math students completed MAT 114/MAT115 at higher rates, received and received grades in the satisfactory grade range of 'A to C' more often than did students who did not first take a developmental course. Furthermore the differences in the performance of two groups was proven to be statistically meaningful.

<sup>\*</sup> because of the nature of the current Math ASSET testing/ Math placement performance comparisons were ONLY made on the basis of actual enrollment in Developmental Math courses.