

The Retention and Graduation Analysis System

Overview

The University of Wisconsin System Office of Policy Analysis and Research (OPAR) routinely calculates and reports rates of student persistence (retention) and graduation within the UW System. Information on student retention and graduation appears in a variety of UW System publications and is also reported to the National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS).

Retention and graduation rates are based on student enrollment records collected through the UW System's Central Data Request (CDR) and stored in an Oracle data warehouse. Database views perform the basic calculation of retention and/or graduation at the level of individual student records. Results from the views are aggregated and formatted prior to publication using database query and reporting tools such as Brio, InfoMaker, and SAS.

Database Views

There are four retention and graduation views on the Oracle data warehouse, CDR3. The name of each view reflects the fact that it analyzes retention and graduation of undergraduates on an annual basis. Each view name also provides information on the student population and the CDR submissions that are included.

uwsa.v_retgrad_ug_year	Combined population; tracks retention and graduation using either Student SSN or Campus Student ID; includes all finalized CDR submissions; preferred view for retention and graduation queries
uwsa.v_retgrad_ug_year_prod	Combined population; tracks retention and graduation using either Student SSN or Campus Student ID; includes finalized and not-yet-final CDR submissions; currently has performance issues – do not use
uwsa.v_retgrad_ug_year_off	Official population; tracks retention and graduation using Student SSN only; includes all finalized CDR submissions
uwsa.v_retgrad_ug_year_off_prod	Official population; tracks retention and graduation using Student SSN only; includes finalized and not-yet-final CDR submissions

The v_retgrad_ug_year view allows the selection of the “total minus study away” population that is used for the new freshmen reports and transfer reports. The v_retgrad_ug_year_off and v_retgrad_ug_year_off_prod views reflect the old, “official” population and are retained in case they are helpful for comparison.

The fields in the views can be categorized as follows:

- Student identifiers
 - The Student SSN and Campus Student ID fields reflect the values recorded with the student's entry as part of a cohort. (See below for defining the student cohort.)
- Characteristics used to define and describe the student cohort
 - In the new freshmen reports, the student cohort is defined by year, term (fall), unit, division, entrance status (new), classification (freshman), population (total minus study away), and full-time attendance.
 - In the new freshmen reports, the student cohort is described by year, unit, division, sex, ethnicity/citizenship, residency status, high school class rank percentile, and a variety of other characteristics.
- Time period in which retention, transfer, or graduation outcome is measured
 - In the new freshmen reports, the time period begins with the fall term and extends through the following summer term.

- Retention, transfer, or graduation outcomes associated with the time period
 - In the new freshmen reports, a student is counted as retained only if they are enrolled at the beginning of the time period, i.e., retained to the following fall term. A student is counted as graduated if they receive their first bachelor's degree at any point during the time period, i.e., graduated at any time from the fall term through the following summer.

Examples of Using the Views

With the current Retention and Graduation Analysis System, analysts do not need to rely solely on the new freshmen reports and the transfer reports. Analysts with the proper authorization can work directly with the database view to:

- Reproduce information in the New Freshmen reports and the Transfer reports
- Create custom tabulations using New Freshmen report variables or the Transfer reports variables
- Join additional data for special-purpose analysis

The following examples illustrate these uses of the v_retgrad_ug_year view.

Example 1: Reproduce information in the New Freshmen reports

This example shows how an analyst can query the v_retgrad_ug_year view to reproduce the information in one of the New Freshmen report tables, "Gender by Expanded Ethnicity." The inner query ("A") specifies the standard cohort and summarizes the retention and graduation outcomes by the gender and race/ethnicity variables of interest. (A decode statement groups White with Unknown race/ethnicity.) The outer query ("B") uses analytic functions of OracleSQL to calculate retention and graduation rates.

The inner query ("A"):

```

/* A. Sum outcomes by crosstab grouping variables */
SELECT
  YEAR,
  TERM,
  UNIT,
  DIVISION,
  SEX,
  DECODE(ETHNICITY_CITIZENSHIP, 'W', 'W/U', 'U', 'W/U', ETHNICITY_CITIZENSHIP)
ETHNICITY_CITIZENSHIP,
  TIMEPERIOD,
  SUM(ENR_UG_SAME_UNIT) ENR_UG_SAME_UNIT,
  SUM(FIRST_BACH_SAME_UNIT) FIRST_BACH_SAME_UNIT,
  SUM(ENR_UG_ANY_UW) ENR_UG_ANY_UW,
  SUM(FIRST_BACH_ANY_UW) FIRST_BACH_ANY_UW
FROM
  UWSA.V_RETGRAD_UG_YEAR
WHERE
  /* new freshmen retention cohort */
  CLASSIF IN ('A', 'B', 'C', 'D')
  AND ENTR_STATUS='N'
  AND TERM='1'
  AND TOT_MINUS_STUDY_AWAY_FLAG='Y'
  AND TOT_MINUS_STUDY_AWAY_PART_TIME = 'N'
GROUP BY
  YEAR,
  TERM,
  UNIT,
  DIVISION,
  SEX,
  DECODE(ETHNICITY_CITIZENSHIP, 'W', 'W/U', 'U', 'W/U', ETHNICITY_CITIZENSHIP),
  TIMEPERIOD

```

The outer query (“B”):

```

/* B: Calculate percent retained
   from cohort and cumulative percent degrees earned,
   within the desired grouping variables (partition) */
SELECT
  A.*,
  ENR_UG_SAME_UNIT / FIRST_VALUE(ENR_UG_SAME_UNIT) OVER (
    PARTITION BY
      YEAR,
      TERM,
      UNIT,
      DIVISION,
      SEX,
      ETHNICITY_CITIZENSHIP
    ORDER BY
      TIMEPERIOD
  ) RET_RATE_SAME_UNIT,
  SUM(FIRST_BACH_SAME_UNIT) OVER (
    PARTITION BY
      YEAR,
      TERM,
      UNIT,
      DIVISION,
      SEX,
      ETHNICITY_CITIZENSHIP
    ORDER BY
      TIMEPERIOD
  ) RANGE BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW)
  /
  FIRST_VALUE(ENR_UG_SAME_UNIT) OVER (
    PARTITION BY
      YEAR,
      TERM,
      UNIT,
      DIVISION,
      SEX,
      ETHNICITY_CITIZENSHIP
    ORDER BY
      TIMEPERIOD
  ) CUM_GRAD_RATE_SAME_UNIT,
  ENR_UG_ANY_UW / FIRST_VALUE(ENR_UG_ANY_UW) OVER (
    PARTITION BY
      YEAR,
      TERM,
      UNIT,
      DIVISION,
      SEX,
      ETHNICITY_CITIZENSHIP
    ORDER BY
      TIMEPERIOD
  ) RET_RATE_ANY_UW,
  SUM(FIRST_BACH_ANY_UW) OVER (
    PARTITION BY
      YEAR,
      TERM,
      UNIT,
      DIVISION,
      SEX,
      ETHNICITY_CITIZENSHIP

```

```

ORDER BY
    TIMEPERIOD
RANGE BETWEEN UNBOUNDED PRECEDING AND CURRENT ROW)
/
FIRST_VALUE(ENR_UG_ANY_UW) over (
    PARTITION BY
        YEAR,
        TERM,
        UNIT,
        DIVISION,
        SEX,
        ETHNICITY_CITIZENSHIP
ORDER BY
    TIMEPERIOD
) CUM_GRAD_RATE_ANY_UW
FROM
/* [Insert query "A" from above] */
`

```

Example 2: Create custom tabulations using New Freshmen report variables

The query structure from Example 1 can be used to generate custom tables using the New Freshmen report variables that appear in v_retgrad_ug_year. For example, OPAR does not produce a New Freshmen report of Gender and ACT Score. An analyst could generate such a report by taking the query from Example 1 and replacing ETHNICITY_CITIZENSHIP with ACT_COMP_SCORE. The analyst may wish to aggregate ACT scores in the inner query to look at ranges instead of individual scores. The following SELECT statement illustrates this modification. (To complete the modification to the inner query, the CASE WHEN statement needs to be repeated in the GROUP BY expression.)

```

/* A. Sum outcomes by crosstab grouping variables */
SELECT
    YEAR,
    TERM,
    UNIT,
    DIVISION,
    SEX,
    (CASE WHEN ACT_COMP_SCORE >= '01' AND ACT_COMP_SCORE <= '15' THEN 'Less than 16'
    WHEN ACT_COMP_SCORE >= '16' AND ACT_COMP_SCORE <= '20' THEN '16 to 20'
    WHEN ACT_COMP_SCORE >= '21' AND ACT_COMP_SCORE <= '25' THEN '21 to 25'
    WHEN ACT_COMP_SCORE >= '26' AND ACT_COMP_SCORE <= '29' THEN '26 to 29'
    WHEN ACT_COMP_SCORE >= '30' AND ACT_COMP_SCORE <= '36' THEN 'Greater than 29'
    ELSE 'Not Available'
    END) ACT_COMP_SCORE_RANGE,
    TIMEPERIOD,
    SUM(ENR_UG_SAME_UNIT) ENR_UG_SAME_UNIT,
    SUM(FIRST_BACH_SAME_UNIT) FIRST_BACH_SAME_UNIT,
    SUM(ENR_UG_ANY_UW) ENR_UG_ANY_UW,
    SUM(FIRST_BACH_ANY_UW) FIRST_BACH_ANY_UW

```

Example 3: Join additional data for special-purpose analysis

The analysis component can also be used to analyze retention and graduation of special populations of interest. For example, we might wish to look at graduation rates of students from particular high schools, or transferring from WTCS institutions, or receiving certain forms of financial aid. The example below joins a table of students who graduated from Stevens Point Area High School in 1999 with the new freshmen retention cohort to produce output similar to the inner query of Example 1.

Caution: Joining data from other tables may result in queries that are very complex and take a long time to process.

```

/* A. Sum outcomes by crosstab grouping variables */
SELECT
    RG.YEAR,
    TERM,
    UNIT,
    DIVISION,
    TIMEPERIOD,
    SUM(ENR_UG_SAME_UNIT) ENR_UG_SAME_UNIT,
    SUM(FIRST_BACH_SAME_UNIT) FIRST_BACH_SAME_UNIT,
    SUM(ENR_UG_ANY_UW) ENR_UG_ANY_UW,
    SUM(FIRST_BACH_ANY_UW) FIRST_BACH_ANY_UW
FROM
    UWSA.V_RETGRAD_UG_YEAR RG,
    (
/* 1999 graduates of Stevens Point Area High School */
SELECT
    STUDENT_SSN,
    HS_GRAD_DATE
FROM
    UWSA.STUDENT_ANALYTICAL
WHERE
    HS_GRAD_FROM='502195'
AND HS_GRAD_DATE=1999
    ) HS
WHERE
    /* new freshmen retention cohort */
    CLASSIF IN ('A','B','C','D')
    AND ENTR_STATUS='N'
    AND TERM='1'
    AND TOT_MINUS_STUDY_AWAY_FLAG='Y'
    AND TOT_MINUS_STUDY_AWAY_PART_TIME='N'
    /* students from the high school */
    AND HS_GRAD_DATE=FLOOR(RG.YEAR/100)
    AND HS.STUDENT_SSN=RG.STUDENT_SSN
GROUP BY
    RG.YEAR,
    TERM,
    UNIT,
    DIVISION,
    TIMEPERIOD

```

Field Definitions

The fields in the retention and graduation analysis views are documented below. When the field is defined in the Central Data Request (CDR) Manual, the CDR Data Element number (DE) is referenced. When the field is defined in other OPAR documents, the filename and location of the document is referenced. When the value of a field depends on other fields in the views, then those other fields are referenced in CAPITAL letters.

Field by Category	Description, CDR Data Element (DE #), or other reference source
Student identifier	
STUDENT_SSN	DE 2010
CAMPUS_STUDENT_ID	DE 2012
Characteristics used to define and/or describe the student cohort	
YEAR	The academic year, expressed as a six-digit integer. Ex: 199900
TERM	The academic term, expressed as a character. The values of this field are currently restricted to fall ('1') and spring ('2') terms.
UNIT	DE 2160
DIVISION	DE 2170
ENTR_STATUS	DE 2240. The values of this field are currently restricted to new ('N'), re-entry ('R'), transfer ('T'), and re-entry/transfer ('S').
CLASSIF	DE 2210. The values of this field are currently restricted to degree-seeking undergraduates ('A', 'B', 'C', or 'D').
SEX	DE 2020
RES_STATUS	DE 2220
ACT_COMP_SCORE	DE 2150
HS_CLASS_RANK_PCT	DE 2105
AGE	"Overview of CDR Views," http://www.uwsa.edu/opar/cdr/views/overview.pdf
ETHNICITY_CITIZENSHIP	"Overview of CDR Views," http://www.uwsa.edu/opar/cdr/views/overview.pdf
INST_LAST	DE 2130
IMMED_NEW_FRESH	<p>This computed field indicates whether the student entered as a New Freshman in the fall semester immediately following the student's graduation from high school.</p> <p>This field has a value of 'Y' if <u>all</u> of the following conditions are met; otherwise the field has a value of 'N':</p> <ul style="list-style-type: none"> • The TERM of the student is the fall term ('1'). • The ENTR_STATUS of the student is 'N' • The CLASSIF of the student is 'A', 'B', 'C', or 'D'. <p>The high school graduation date (DE 2120) of the student is equal to the calendar year that begins the academic year indicated by YEAR. For example, if YEAR is 199900, then high school graduation date must equal 1999.</p>
TOT_MINUS_STUDY_AWAY_FLAG	"Overview of CDR Views," http://www.uwsa.edu/opar/cdr/views/overview.pdf This field is only found in uwsa.v_retgrad_ug_year and uwsa.v_retgrad_ug_year_prod views.
TOT_MINUS_STUDY_AWAY_PART_TIME	"Overview of CDR Views," http://www.uwsa.edu/opar/cdr/views/overview.pdf This field is only found in uwsa.v_retgrad_ug_year and uwsa.v_retgrad_ug_year_prod views.

OFFICIAL_FLAG “Overview of CDR Views,” <http://www.uwsa.edu/opar/cdr/views/overview.pdf>
This field is only found in uwsa.v_retgrad_ug_year_off and uwsa.v_retgrad_ug_year_off_prod views.

OFFICIAL_PART_TIME “Overview of CDR Views,” <http://www.uwsa.edu/opar/cdr/views/overview.pdf>
This field is only found in uwsa.v_retgrad_ug_year_off and uwsa.v_retgrad_ug_year_off_prod views.

Time period in which retention, transfer, or graduation outcome is measured

TIMEPERIOD This computed field indicates the number of years that have elapsed since the student enrolled as part of the cohort.

The year indicated by TIMEPERIOD begins with the term indicated by TERM and includes subsequent terms prior to the TERM in the following year. For example:

- If TERM is the fall term ('1'), TIMEPERIOD begins with the fall term and includes all terms through the following summer term ('S'). This is the situation used in the standard retention and graduation reports.
- If TERM is the spring term ('2'), TIMEPERIOD begins with the spring term and includes all terms through the following winter term ('W').

Values for TIMEPERIOD are positive integers (1, 2, 3, ...). A value of 1 represents student activity occurring within the one-year period that begins with YEAR and TERM. A value of 2 represents student activity during the subsequent year, and so on. For example, when YEAR is 199900 and TERM is '1', then:

- TIMEPERIOD=1 represents activity beginning fall 199900 and ending summer 200001.
- TIMEPERIOD=2 represents activity beginning fall 200001 and ending summer 200102.

Enrollment and/or degree activity is tracked until the student earns a bachelor's degree from the same institution at which the student entered. Enrollment or degree activity after that point is not included. For example:

- The student enrolled as part of the fall 1999-00 cohort at UW-Stout, and subsequently enrolled at UW-Stout in the fall terms of 2000-01, 2001-02, 2002-03. Records with TIMEPERIOD equal to 1, 2, 3, and 4 exist for this student.
- The student received a bachelor's degree from UW-Stout in the spring term of 2002-03. A record with TIMEPERIOD=4 exists for this student.
- The student subsequently enrolled as an undergraduate at UW-Stout in fall 2003-04. No record with TIMEPERIOD=5 exists for this student, since the student has already received a bachelor's degree from UW-Stout.

Retention, transfer, or graduation outcomes associated with the time period

ENR_UG_SAME_UNIT This computed field indicates, as of the beginning of the TIMEPERIOD, whether or not the student has been retained as an undergraduate at the same institution where the student started. This field is only found in uwsa.v_retgrad_ug_year and uwsa.v_retgrad_ug_year_prod views..

This field has a value of 1 if all of the following conditions are met; otherwise, the field has a value of 0:

- The student is enrolled in the same term as indicated by TERM of the year indicated by TIMEPERIOD.
 - The term of the year indicated by TIMEPERIOD is not later than the term in which the student earned a bachelor's degree as indicated by FIRST_BACH_SAME_UNIT.
 - In the term of the year indicated by TIMEPERIOD, the student is enrolled with an undergraduate classification (DE 2210). Undergraduate classification is defined as 'A', 'B', 'C', 'D', 'I', 'J', 'N', 'S', or 'T'.
 - In the term of the year indicated by TIMEPERIOD, the student is enrolled at the same institution as indicated by UNIT.
-

ENR_UG_SAME_UNIT_OFF This computed field indicates, as of the beginning of the TIMEPERIOD, whether or not the student has been retained as an official undergraduate at the same institution where the student started. This field is only found in uwsa.v_retgrad_ug_year_off and uwsa.v_retgrad_ug_year_off_prod views.

This field has a value of 1 if all of the following conditions are met; otherwise, the field has a value of 0:

- The student is enrolled in the same term as indicated by TERM of the year indicated by TIMEPERIOD.
- The term of the year indicated by TIMEPERIOD is not later than the term in which the student earned a bachelor's degree as indicated by FIRST_BACH_SAME_UNIT.
- In the term of the year indicated by TIMEPERIOD, the student is enrolled with an undergraduate classification (DE 2210) and is part of the official population (see "Overview of CDR Views," <http://www.uwsa.edu/opar/cdr/views/overview.pdf>).
- In the term of the year indicated by TIMEPERIOD, the student is enrolled at the same institution as indicated by UNIT.

FIRST_BACH_SAME_UNIT This computed field indicates whether or not the student earned a bachelor's degree for the first time from the same institution where the student started.

This field has a value of 1 if all of the following conditions are met; otherwise, the field has a value of 0:

- The student received a bachelor's degree during any term falling within the year indicated by TIMEPERIOD.
- The student received a bachelor's degree from the same institution as indicated by UNIT.
- The student did not receive a bachelor's degree during an earlier TIMEPERIOD from the same institution as indicated by UNIT.

ENR_UG_ANY_UW	<p>This computed field indicates, as of the beginning of the TIMEPERIOD, whether or not the student has been retained as an undergraduate at any UW institution. This field is only found in uwsa.v_retgrad_ug_year and uwsa.v_retgrad_ug_year_prod views..</p> <p>This field has a value of 1 if <u>all</u> of the following conditions are met; otherwise, the field has a value of 0:</p> <ul style="list-style-type: none"> • The student is enrolled in the same term as indicated by TERM of the year indicated by TIMEPERIOD. • The term of the year indicated by TIMEPERIOD is not later than the term in which the student earned a bachelor's degree as indicated by FIRST_BACH_ANY_UNIT. • In the term of the year indicated by TIMEPERIOD, the student is enrolled with an undergraduate classification (DE 2210). Undergraduate classification is defined as 'A', 'B', 'C', 'D', 'I', 'J', 'N', 'S', or 'T'. • The student is enrolled at any UW institution.
ENR_UG_ANY_UW_OFF	<p>This computed field indicates, as of the beginning of the TIMEPERIOD, whether or not the student has been retained as an <u>official</u> undergraduate at any UW institution. This field is only found in uwsa.v_retgrad_ug_year_off and uwsa.v_retgrad_ug_year_off_prod views.</p> <p>This field has a value of 1 if <u>all</u> of the following conditions are met; otherwise, the field has a value of 0:</p> <ul style="list-style-type: none"> • The student is enrolled in the same term as indicated by TERM of the year indicated by TIMEPERIOD. • The term of the year indicated by TIMEPERIOD is not later than the term in which the student earned a bachelor's degree as indicated by FIRST_BACH_ANY_UNIT. • In the term of the year indicated by TIMEPERIOD, the student is enrolled with an undergraduate classification (DE 2210) and is part of the official population (see "Overview of CDR Views," http://www.uwsa.edu/opar/cdr/views/overview.pdf). • The student is enrolled at any UW institution.
FIRST_BACH_ANY_UW	<p>This computed field indicates whether or not the student earned a bachelor's degree for the first time from any UW institution.</p> <p>This field has a value of 1 if <u>all</u> of the following conditions are met; otherwise, the field has a value of 0:</p> <ul style="list-style-type: none"> • The student received a bachelor's degree during any term falling within the year indicated by TIMEPERIOD. • The student did not receive a bachelor's degree during an earlier TIMEPERIOD from any UW institution.
FIRST_ASSOC_SAME_UNIT	<p>This computed field indicates whether or not the student earned an associate's degree for the first time from the same institution where the student started.</p> <p>This field has a value of 1 if <u>all</u> of the following conditions are met; otherwise, the field has a value of 0:</p> <ul style="list-style-type: none"> • The student received an associate's degree during any term falling within the year indicated by TIMEPERIOD. • The student received an associate's degree from the same institution as indicated by UNIT. • The student did not receive a bachelor's degree or an associate's degree during an earlier TIMEPERIOD from the same institution indicated by UNIT.

FIRST_TRANS_DIFF_UNIT This computed field indicates whether or not the student transferred to a different institution for the first time from the institution where the student started. This field is only found in uwsa.v_retgrad_ug_year and uwsa.v_retgrad_ug_year_prod views.

This field has a value of 1 if all of the following conditions are met; otherwise, the field has a value of 0:

- The student has an entrance status (DE 2240) of 'T' during any term falling within the year indicated by TIMEPERIOD.
- In the term when the student has an entrance status of 'T', the student is enrolled as an undergraduate at an institution different from the institution indicated by UNIT. Undergraduate classification (DE 2210) is defined as 'A', 'B', 'C', 'D', 'I', 'J', 'N', 'S', or 'T'.
- The student did not receive a bachelor's degree during an earlier TIMEPERIOD from any UW institution.
- The student did not transfer to a different institution during an earlier TIMEPERIOD.

FIRST_TRANS_DIFF_UNIT_OFF This computed field indicates whether or not the student transferred to a different institution as an official student for the first time from the institution where the student started. This field is only found in uwsa.v_retgrad_ug_year_off and uwsa.v_retgrad_ug_year_off_prod views.

This field has a value of 1 if all of the following conditions are met; otherwise, the field has a value of 0:

- The student has an entrance status (DE 2240) of 'T' during any term falling within the year indicated by TIMEPERIOD.
- In the term when the student has an entrance status of 'T', the student is enrolled at an institution different from the institution indicated by UNIT.
- In the term of the year indicated by TIMEPERIOD, the student is enrolled with an undergraduate classification (DE 2210) and is part of the official population (see "Overview of CDR Views," <http://www.uwsa.edu/opar/cdr/views/overview.pdf>).
- The student did not receive a bachelor's degree during an earlier TIMEPERIOD from any UW institution.
- The student did not transfer to a different institution during an earlier TIMEPERIOD.