

# Technical Specification

## Outcome API



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## **1 Introduction**

The Outcome API in Lifecare Exchange Services provides services that make it possible to get and set the students outcome, i.e. grades and national tests. The services in the Outcome API are accessed via URIs.

This document describes following:

- Which grade and national test information that a user can get and set via the Outcome API.
- How the grade and national test information is divided into entities and how these entities are structured.

### **1.1 Prerequisites**

Before you can get access to the Outcome API you must request a license key from Tieto. You should have basic knowledge on Swedish school system and W3C XML before you start using the API.

## 2 Supported school types

The table below describes the supported types of school.

| School type                                      | Description  | Code |
|--|--|------|
| Compulsory School                                | Primary school organization for younger students             | GR   |
| Compulsory School For Learning Disabilities      | Organization for compulsory school for learning disabilities | S    |
| Upper Secondary School                           | Secondary school organization 3-4 years education            | GY   |
| Upper Secondary School For Learning Disabilities | Organization for secondary school for learning disabilities  | GS   |
| Swedish For Immigrants School                    | Organization for Swedish immigrants                          | SF   |
| Adult School For Learning Disabilities           | Organization for adult school for learning disabilities      | SV   |
| Municipal Adult School                           | Municipality school organization for adults                  | KV   |
| Higher Vocational Education                      | Organizations for Higher Vocational Education                | YH   |

### 3 Grade reports

#### 3.1 Outcome

##### 3.1.1 Supported outcome for the different school types

This chapter describes the supported outcome for the different types of school.

| School type                                      | Outcome   |
|--|---|
| Compulsory School                                | Final report,<br>Semester report  |
| Compulsory School For Learning Disabilities      | Final report,<br>Semester report  |
| Upper Secondary School                           | Diploma certificate report,<br>Study certificate report,<br>Catalog extraction report,<br>Upper secondary school certificate report |
| Upper Secondary School For Learning Disabilities | Diploma certificate report,<br>Catalog extraction report  |
| Swedish For Immigrants School                    | Catalog extraction report   |
| Adult School For Learning Disabilities           | Catalog extraction report   |
| Municipal Adult School                           | Diploma certificate report,<br>Study certificate report,<br>Catalog extraction report   |
| Higher Vocational Education                      | Diploma certificate report,<br>Study certificate report,<br>Catalog extraction report   |

##### 3.1.2 Final report

Final report is given to students who finish the ninth grade at compulsory school and compulsory school for learning disabilities.

### 3.1.3 Semester report

Semester report is given to students twice a year, at the end of each semester. The first semester report is given at the end of the first semester in the sixth grade. The last semester report is given at the end of the first semester in the ninth grade.

The semester report is used for compulsory school and for compulsory school for learning disabilities.

### 3.1.4 Diploma certificate report

Diploma certificate report is given to students finishing last grade, with approved study result.

### 3.1.5 Study certificate report

Study certificate report is given to students finishing last grade, with not approved study result.

### 3.1.6 Catalog extraction report

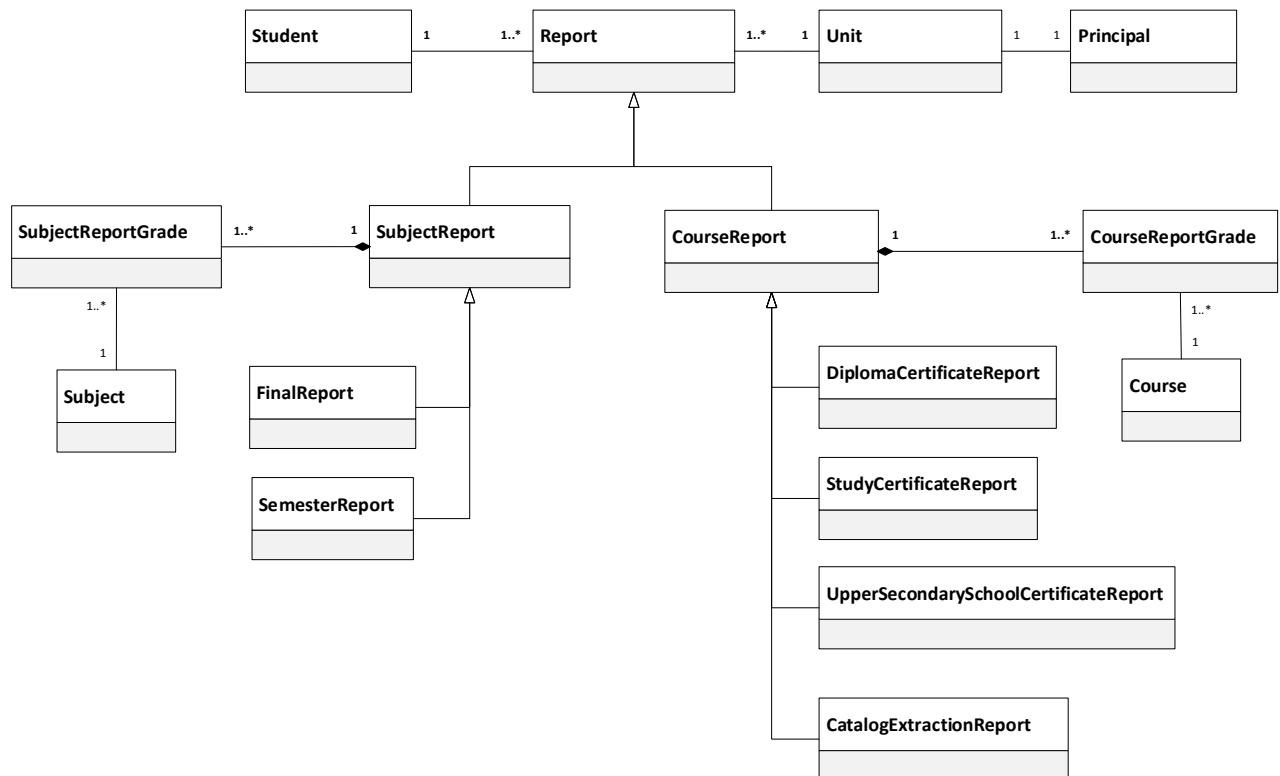
A catalog extraction report contains the grades that have been set for a student at the time the catalog extraction report was created.

### 3.1.7 Upper secondary school certificate report

Upper secondary school certificate report is given to students that have finished an introduction program at upper secondary school.

## 3.2 Domain model

The diagram below describes how the grade information is divided into entities and how these entities are structured. The entities are grouped into course and subject oriented grades.



### 3.3 Entities

#### 3.3.1 Report

| Name    | Description                  | Read-only |
|---------|------------------------------|-----------|
| date    | Date and time for the report | No        |
| unit    | The issuing unit             | No        |
| student | Student                      | No        |

#### 3.3.2 SubjectReport

| Name       | Description            | Read-only |
|------------|------------------------|-----------|
| schoolyear | School year for report | No        |

#### 3.3.3 SubjectReportGrade



| Name             | Description  | Read-only |
|------------------|--|-----------|
| subject          | SCB subject code   | No        |
| grade            | Grade for the subject  | Yes       |
| finalgrade       | Indicates if the subject grade refers to a final grade, enumerated as True, False. (This attribute is only used for semester reports.) | Yes       |
| adaptedstudytime | Indicates if the study time for the subject is adapted, enumerated as True, False. (This attribute is only used for semester reports.) | Yes       |
| period           | Period when grade was set as finalgrade  | Yes       |

### 3.3.4 FinalReport

| Name   | Description                       | Read-only |
|--------|-----------------------------------|-----------|
| grades | One or more subject report grades | No        |

### 3.3.5 SemesterReport

| Name     | Description                            | Read-only |
|----------|--|-----------|
| semester | Autumn or spring semester              | No        |
| absence  | Total absence in hours for the student | No        |
| grades   | One or more subject report grades      | No        |

### 3.3.6 CourseReport

| Name             | Description       | Read-only |
|------------------|-------------------|-----------|
| program          | The program code  | No        |
| basiceligibility | Basic eligibility | No        |

### 3.3.7 CourseReportGrade

| Name           | Description   | Read-only |
|----------------|---|-----------|
| course         | SCB course code   | No        |
| grade          | Grade for the course  | Yes       |
| trialperformed | Indicates that a trial of the course knowledge has been performed | Yes       |
| date           | Grade date  | Yes       |
| courselevel    | Level of course   | Yes       |

### 3.3.8 DiplomaCertificateReport

| Name   | Description                      | Read-only |
|--------|----------------------------------|-----------|
| grades | One or more course report grades | No        |

### 3.3.9 StudyCertificateReport

| Name   | Description                      | Read-only |
|--------|----------------------------------|-----------|
| grades | One or more course report grades | No        |

### 3.3.10 UpperSecondarySchoolCertificateReport

| Name   | Description                      | Read-only |
|--------|----------------------------------|-----------|
| grades | One or more course report grades | No        |

### 3.3.11 CatalogExtractionReport

| Name    | Description                            | Read-only |
|---------|--|-----------|
| grades  | One or more course report grades       | Yes       |
| absence | Total absence in hours for the student | Yes       |

Comment: Since all attributes are read-only, the whole CatalogExtractionReport is read-only and therefore import of CatalogExtractionReport is not supported.

### 3.3.12 Unit

| Name           | Description                             | Read-only |
|----------------|---|-----------|
| id             | Id for the unit                         | No        |
| schoolname     | School name                             | Yes       |
| schoolunitcode | School unit code                        | Yes       |
| schoolunitname | School unit name                        | Yes       |
| schooltype     | School type, see supported school types | Yes       |
| principal      | Principal                               | Yes       |

### 3.3.13 Principal

| Name | Description        | Read-only |
|------|--------------------|-----------|
| id   | Principal identity | No        |
| name | Principal name     | Yes       |

### 3.3.14 Student

| Name | Description  | Read-only |
|------|--|-----------|
| id   | Student identity. The id can be GUID or PID for the student. | No        |
| name | Student name   | Yes       |

### 3.3.15 Assessor

| Name | Description       | Read-only |
|------|-------------------|-----------|
| id   | Assessor identity | No        |
| name | Assessor name     | Yes       |

### 3.3.16 Course

| Name   | Description                           | Read-only |
|--------|---------------------------------------|-----------|
| code   | Course code                           | No        |
| name   | Course name                           | Yes       |
| points | Total number of points for the course | Yes       |

### 3.3.17 Subject

| Name | Description  | Read-only |
|------|--------------|-----------|
| code | Subject code | No        |
| name | Subject name | Yes       |

## 4 Grades

### 4.1 Outcome

#### 4.1.1 Supported outcome for the different school types

This chapter describes the supported outcome for the different types of school.

| School type                                      | Outcome       |
|--|---------------|
| Preschool class                                  | Subject grade |
| Compulsory School                                | Subject grade |
| Compulsory School For Learning Disabilities      | Subject grade |
| Upper Secondary School                           | Course grade  |
| Upper Secondary School For Learning Disabilities | Course grade  |
| Swedish For Immigrants School                    | Course grade  |
| Adult School For Learning Disabilities           | Course grade  |
| Municipal Adult School                           | Course grade  |
| Higher Vocational Education                      | Course grade  |

#### 4.1.2 Subject grade

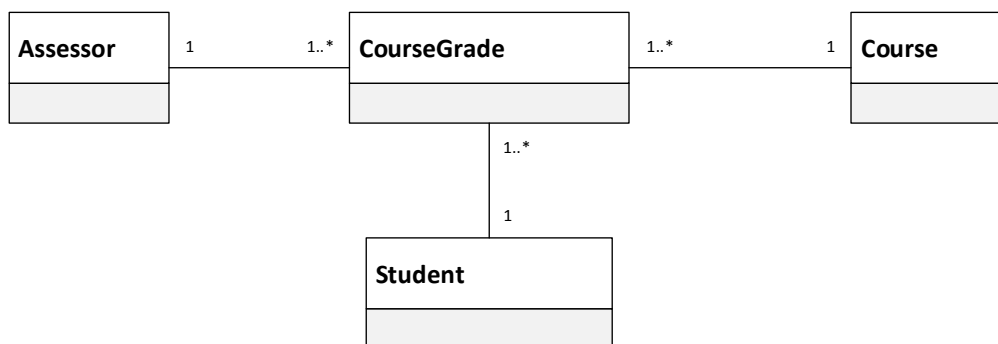
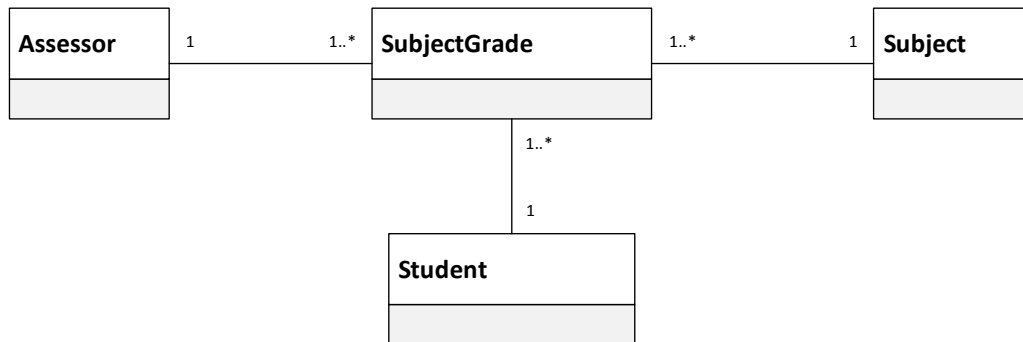
A student's grade in a subject

#### 4.1.3 Course grade

A student's grade in a course

### 4.2 Domain model

The diagram below describes how the grades information is divided into entities and how these entities are structured.



## 4.3 Entities

### 4.3.1 SubjectGrade

| Name             | Description  | Read-only |
|------------------|--|-----------|
| student          | Student  | No        |
| assessor         | Assessor for the subject   | No        |
| unitid           | Unit id  | No        |
| schoolname       | School name  | Yes       |
| subject          | Subject  | No        |
| grade            | Grade for the subject  | No        |
| finalgrade       | Indicates if the subject grade refers to a final grade, enumerated as True, False. (This attribute is only used for semester reports.) | No        |
| adaptedstudytime | Indicates if the study time for the subject is adapted, enumerated as True, False. (This attribute is only used for semester reports.) | No        |
| date             | Date within the period for the grade   | No        |

#### 4.3.2 CourseGrade

| Name           | Description   | Read-only |
|----------------|---|-----------|
| student        | Student   | No        |
| assessor       | Assessor for the course   | No        |
| unitid         | Unit id   | No        |
| schoolname     | School name   | Yes       |
| groupid        | Group id  | No        |
| course         | Course  | No        |
| grade          | Grade for the course  | No        |
| trialperformed | Indicates that a trial of the course knowledge has been performed | No        |
| date           | Grade date  | No        |

#### 4.3.3 Student

| Name | Description  | Read-only |
|------|--|-----------|
| id   | Student identity. The id can be GUID or PID for the student. | No        |
| name | Student name   | Yes       |

#### 4.3.4 Assessor

| Name | Description       | Read-only |
|------|-------------------|-----------|
| id   | Assessor identity | No        |
| name | Assessor name     | Yes       |

#### 4.3.5 Course

| Name   | Description                           | Read-only |
|--------|---------------------------------------|-----------|
| code   | Course code                           | No        |
| name   | Course name                           | Yes       |
| points | Total number of points for the course | Yes       |

#### 4.3.6 Subject

| Name | Description  | Read-only |
|------|--------------|-----------|
| code | Subject code | No        |
| name | Subject name | Yes       |

## 5 National tests

### 5.1 Outcome

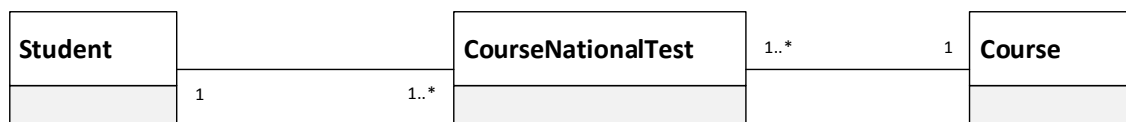
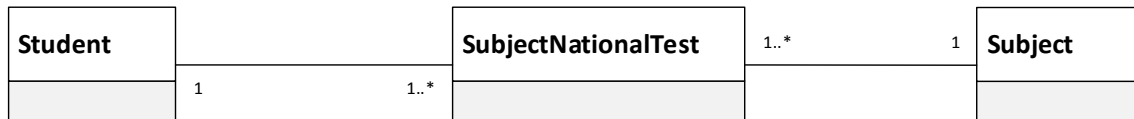
#### 5.1.1 Supported outcome for the different school types

This chapter describes the supported outcome for the different types of school.

| School type                   | Outcome             |
|-------------------------------|---------------------|
| Compulsory School             | NationalSubjectTest |
| Upper Secondary School        | NationalCourseTest  |
| Swedish For Immigrants School | NationalCourseTest  |
| Municipal Adult School        | NationalCourseTest  |

### 5.2 Domain model

The diagram below describes how the national test information is divided into entities and how these entities are structured.



### 5.3 Entities

#### 5.3.1 SubjectNationalTest

| Name    | Description      | Read-only |
|---------|------------------|-----------|
| student | Student          | No        |
| subject | SCB subject code | No        |



| Name       | Description   | Read-only |
|------------|---|-----------|
| date       | Test date   | No        |
| schoolyear | The school year in which the national test was performed. | Yes       |
| grade      | Grade for the national test                               | No        |

### 5.3.2 CourseNationalTest

| Name     | Description                 | Read-only |
|----------|-----------------------------|-----------|
| student  | Student                     | No        |
| course   | SCB course code             | No        |
| date     | Test date                   | No        |
| semester | Semester                    | No        |
| grade    | Grade for the national test | No        |

### 5.3.3 Student

| Name | Description  | Read-only |
|------|--|-----------|
| Id   | Student identity. The id can be GUID or PID for the student. | No        |
| Name | Student name   | Yes       |

### 5.3.4 Course

| Name   | Description                           | Read-only |
|--------|---------------------------------------|-----------|
| Code   | Course code                           | No        |
| Name   | Course name                           | Yes       |
| Points | Total number of points for the course | Yes       |

### 5.3.5 Subject

| Name | Description  | Read-only |
|------|--------------|-----------|
| Code | Subject code | No        |
| Name | Subject name | Yes       |

## 6 Services

All services are based on HTTP REST technology and organized in school types to match each school structure. "Update services" are using the method HTTP POST and "Get services" are using the method HTTP GET.

### 6.1 Grade reports

#### 6.1.1 Export

The services below give grade reports for a student or grade reports created within a specified date interval. The output is XML information with grade reports.

Base path for services are: `https://[host]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc`

Parameters – Alternative 1:

| Parameter | Mandatory | Description  |
|-----------|-----------|--|
| Id        | Yes       | Student identity. The id can be GUID or PID for the student. |

Parameters – Alternative 2:

| Parameter | Mandatory | Description   |
|-----------|-----------|---|
| StartDate | Yes       | Start date in the format YYYY-MM-DD.  |
| EndDate   | Yes       | End date in the format YYYY-MM-DD.<br>The maximum allowed difference between start date and end date is one year. |

Services:

| Service  | Description   |
|--|---|
| GetCompulsorySchoolGradeReports                            | Get grade reports for compulsory schools student                                |
| GetCompulsorySchoolForLearningDisabilitiesGradeReports     | Get grade reports for compulsory school with learning disabilities student      |
| GetUpperSecondarySchoolGradeReports                        | Get grade reports for upper secondary school student                            |
| GetUpperSecondarySchoolForLearningDisabilitiesGradeReports | Get grade reports for upper secondary school with learning disabilities student |
| GetSwedishForImmigrantsSchoolGradeReports                  | Get grade reports for Swedish for immigrants student                            |
| GetMunicipalAdultSchoolGradeReports                        | Get grade reports for municipal adult school student                            |

| Service   | Description   |
|---|---|
| GetAdultSchoolForLearningDisabilitiesGradeReports | Get grade reports for adult school with learning disabilities student |
| GetHigherVocationalEducationGradeReports          | Get grade reports for higher vocational education student             |

## 6.1.2 Import

The services below update or add new grade reports. The services take no parameters.

Base path for services are: [https://\[host\]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc](https://[host]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc)

Services:

| Service   | Description   |
|---|---|
| UpdateUpperSecondarySchoolGradeReports                        | Update or add new grade reports for upper secondary school student                            |
| UpdateUpperSecondarySchoolForLearningDisabilitiesGradeReports | Update or add new grade reports for upper secondary school with learning disabilities student |
| UpdateSwedishForImmigrantsSchoolGradeReports                  | Update or add new grade reports for Swedish for immigrants student                            |
| UpdateMunicipalAdultSchoolGradeReports                        | Update or add new grade reports for municipal adult school student                            |
| UpdateAdultSchoolForLearningDisabilitiesGradeReports          | Update or add new grade reports for adult school with learning disabilities student           |
| UpdateHigherVocationalEducationGradeReports                   | Update or add new grade reports for higher vocational education student                       |

## 6.2 Grades

### 6.2.1 Export

The services below give grades for a student or grades created within a specified date interval. The output is XML information with grades.

Base path for services are: [https://\[host\]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc](https://[host]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc)

Parameters – Alternative 1:

| Parameter | Mandatory | Description  |
|-----------|-----------|--|
| Id        | Yes       | Student identity. The id can be GUID or PID for the student. |

Parameters – Alternative 2:

| Parameter | Mandatory | Description   |
|-----------|-----------|---|
| StartDate | Yes       | Start date in the format YYYY-MM-DD.  |
| EndDate   | Yes       | End date in the format YYYY-MM-DD.<br>The maximum allowed difference between start date and end date is one year. |

Services:

| Service  | Description  |
|--|--|
| GetCompulsorySchoolGrades                            | Get grades for compulsory school students                                |
| GetCompulsorySchoolForLearningDisabilitiesGrades     | Get grades for compulsory school for learning disabilities students      |
| GetUpperSecondarySchoolGrades                        | Get grades for upper secondary school students                           |
| GetUpperSecondarySchoolForLearningDisabilitiesGrades | Get grades for upper secondary school for learning disabilities students |
| GetSwedishForImmigrantsSchoolGrades                  | Get grades for Swedish for immigrants school students                    |
| GetMunicipalAdultSchoolGrades                        | Get grades for municipal adult school students                           |
| GetAdultSchoolForLearningDisabilitiesGrades          | Get grades for adult school for learning disabilities students           |
| GetHigherVocationalEducationGrades                   | Get grades for higher vocational education students                      |

## 6.2.2 Import

The services below update or add new grades for students. The services take no parameters.

Base path for services are: [https://\[host\]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc](https://[host]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc)

Services:

| Service   | Description   |
|---|---|
| UpdateCompulsorySchoolGrades                            | Update or add new grades for compulsory school students                           |
| UpdateCompulsorySchoolForLearningDisabilitiesGrades     | Update or add new grades for compulsory school for learning disabilities students |
| UpdateUpperSecondarySchoolGrades                        | Update or add new grades for upper secondary school students                      |
| UpdateUpperSecondarySchoolForLearningDisabilitiesGrades | Update or add new grades for upper  |

| Service  | Description   |
|--|---|
|  | secondary school for learning disabilities students                           |
| UpdateSwedishForImmigrantsSchoolGrades         | Update or add new grades for Swedish for immigrants students                  |
| UpdateMunicipalAdultSchoolGrades               | Update or add new grades for municipal adult school students                  |
| UpdateAdultSchoolForLearningDisabilitiesGrades | Update or add new grades for adult school with learning disabilities students |
| UpdateHigherVocationalEducationGrades          | Update or add new grades for higher vocational education students             |

## 6.3 National tests

### 6.3.1 Export

The services below give national test results for subjects and courses. The output is XML information with the national test results.

Base path for services are: [https://\[host\]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc](https://[host]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc)

Parameters – Alternative 1:

| Parameter | Mandatory | Description  |
|-----------|-----------|--|
| Id        | Yes       | Student identity. The id can be GUID or PID for the student. |

Parameters – Alternative 2:

| Parameter | Mandatory | Description                    |
|-----------|-----------|--------------------------------|
| Date      | Yes       | Date in the format YYYY-MM-DD. |

Parameters – Alternative 3:

| Parameter | Mandatory | Description           |
|-----------|-----------|-----------------------|
| Type      | Yes       | Type of national test |

Services:

| Service                                    | Description   |
|--|---|
| GetCompulsorySchoolNationalTests           | Get national test result for a compulsory school subject            |
| GetUpperSecondarySchoolNationalTests       | Get national test result for an upper secondary school course       |
| GetSwedishForImmigrantsSchoolNationalTests | Get national test result for a Swedish for immigrants school course |
| GetMunicipalAdultSchoolNationalTests       | Get national test result for a municipal adult school course        |

### 6.3.2 Import

The services below update or add national test results for subjects and courses. The services take no parameters.

Base path for services are: [https://\[host\]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc](https://[host]/WE.Education.Integration.Host/LES/Outcome/V1/Outcome.svc)

Services:

| Service                                       | Description   |
|---|---|
| UpdateCompulsorySchoolNationalTests           | Update or add new national test result for a compulsory school subject      |
| UpdateUpperSecondarySchoolNationalTests       | Update or add new national test result for an upper secondary school course |
| UpdateSwedishForImmigrantsSchoolNationalTests | Update or add new national test result for Swedish for immigrants course    |
| UpdateMunicipalAdultSchoolNationalTests       | Update or add new national test result for municipal adult school course    |

## 7 Appendix

### 7.1 References

| Name                                 | Address   |
|--------------------------------------|---|
| Outcome API XML schemas and examples | <a href="https://github.com/ExchangeServices/API">https://github.com/ExchangeServices/API</a> |

### 7.2 Vocabulary

| Word    | Description                                 |
|---------|---|
| Child   | Children below 6 year                       |
| Student | School student 6 year and older             |
| PID     | Personal identity, formatted [YYYYMMDDNNNN] |
| GUID    | Global unique identifier                    |