



# End of Second Grade Reading Assessment of USAID's Read Project

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### **Acronyms**

CWPM:	Correct words per minute
LK:	Letter Knowledge
M&E:	Monitoring and Evaluation
MINERD:	Ministerio de Educación de la República Dominicana
MoE:	Ministry of Education
RC:	Reading Comprehension
TERCE:	Tercer Estudio Regional Comparativo y Educativo
UNESCO:	United Nations Education, Scientific, and Cultural Organization
UNIBE:	Universidad Iberoamericana
USAID:	United States Agency for International Development
WPM:	Words per Minute

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## Executive Summary

End of Second Grade study consisted of a short evaluation to test four main literacy sub-skills (letter knowledge, correct words per minute, fluency, and reading comprehension) on a representative sample of Project-READ students. This study responds to Project READ'S Indicator 1.3: "Reporting a proportion of students who by the end of 2<sup>nd</sup> grade of primary schooling demonstrate that they can read fluently and understand the meaning of grade leveled texts".

Participants showed 50% accuracy on letter knowledge, 21.49 correct words per minute on isolated text, 24.99 correct words per minute on connected text, and 45% accuracy on reading comprehension.

While it is not recommended to make inferential analyses between 2016 and 2017 cohorts, there are substantial improvements in some basic reading skills previously identified as deficient in baseline evaluation, such as letter knowledge and reading comprehension. In addition, project read has decreased the percentage of non-readers. Despite these improvements, children are still reading below benchmark levels that are generally accepted by international testing standards.

It should be noted, however, that given the broad challenges faced by the project, such as MoE reluctance to implement all of Project Read's components, we cannot assess the full scope of Project Read's potential benefits. Considering that full implementation has not taken place due to MoE restrictions, we make these additional recommendations that have shown improvements in other reading programs: (1) Conduct a qualitative study with intervention stakeholders to deepen in limitations of implementation; (2) To distribute and create new evidence based practice materials as well as teacher training.

## Introduction

Project Read (UNIBE, 2015) is a USAID-funded program whose primary goal is to improve reading outcomes in 200,000 children from 600 Dominican public schools. The project lasts 5 years and it aims to improve reading scores in the country as both national (EDUCA, 2015) and international (UNESCO, 2014) reports find consistent low reading scores in the country. The results of the baseline assessment conducted in 2015 showed that second graders performed substantially below expected grade level for reading (Mencía-Ripley, Sánchez-Vincitore, Garrido, & Aguasvivas-Manzano, 2016). Students had marked deficits in letter knowledge, phonological awareness, decoding skills, fluency, and literal comprehension. A measurement of oral comprehension skills demonstrated similar deficits.

Given the baseline study results, the Monitoring and Evaluation (M&E) team made the following recommendation: (a) Explicit training in letter knowledge and syllable combinations; (b) Explicit training in phonological awareness; (c) Tasks to improve oral comprehension skills; (d) Frequent practice of basic literacy skills through the use of a text of the alphabetic principle, decodable and grade-leveled texts.

The efficacy of these recommendations is monitored through yearly assessment of a sample of children as they complete second grade of primary education. The current report reflects the results of the second end-of-second-grade assessment corresponding to the end of the second year of implementation of Project Read.

The reason for measuring reading in second grade is that neuroscientific data shows that reading acquisition occurs during a sensitive period of development and that automaticity needs to be achieved during such period in order for children to become effortless readers (Abadzi, 2005; Maurer, Brem, Bucher, & Brandeis, 2005). This period coincides with early the early grades of formal education. The importance of acquiring good literacy skills in early grades cannot be underscored as children who do not become readers in early grades will have difficulty understanding increasingly complex content as they advance to higher grades. This academic failure in later grades is associated with school drop-out and other problem behaviors in teens (UNESCO, 2013).

## Description of the Study

This study was designed to evaluate the project's progress on reading intervention. This is the second of a series of 5 reports across the life of the project that will inform student performance on early literacy skills. With this assessment, we can see how the intervention (teacher training, teacher mentoring, exposure to grade-leveled texts) is transferring into better reading outcomes. As teachers get more experience at implementing the strategies, we expect early reading scores to improve across time. In addition, the ongoing monitoring of student performance will allow the literacy team to make strategic evidence-based decisions related to the intervention, so that all efforts to improve reading outcomes are targeted to specific needs.

The study has a non-experimental design with one group. Four hundred schools received Project READ intervention during year 2. From these, 55 schools were randomly chosen for the end of second grade reading assessment. The study measured letter knowledge, correct words per minute, fluency, and reading comprehension.

## Methods

### Sample Size Calculation

The required sample size to estimate with sufficient precision the means of the variables Letter Knowledge, Words per Minute, Fluency, and Reading Comprehension was determined. Two-stage cluster sampling was chosen, where schools would be randomly selected in the first stage and second grade students would be randomly selected within the chosen schools in the second stage. In addition, the sampling was stratified, in that each Educational Region would contain in the sample the same proportion of schools as it had in the population of schools of Project READ.

The first step was to compute the sample size required for simple random sampling, which can also be called the effective sample size (ESS). The sample size formula for the estimation of means is (Chadha, 2006):

$$n = \frac{Z_{1-\alpha/2}^2 \sigma^2}{\varepsilon^2 \mu^2},$$

where  $n$  is the sample size,  $Z$  is the value in the x-axis of a standardized normal curve corresponding to the confidence interval chosen,  $\alpha$  is the Type I Error,  $\sigma$  is the population standard deviation,  $\epsilon$  is the relative precision, and  $\mu$  is the population mean.

For  $\alpha$  the standard value of 0.05 was chosen (corresponding to a 95% confidence interval), which produces a value of 1.96 for  $Z$ . Additionally, a recommended value of 0.25 was selected for the  $\epsilon$  parameter (WHO, 2011). In the cases of  $\sigma$  and  $\mu$  the values estimated from the baseline LEER study were used. The effective sample size was computed for each variable as follows:

Letter Knowledge:

$$n = \frac{Z_{1-\alpha/2}^2 \sigma^2}{\epsilon^2 \mu^2} = \frac{(1.96)^2 (0.2793)^2}{(0.25)^2 (0.2663)^2} = 67.62.$$

Words per Minute:

$$n = \frac{Z_{1-\alpha/2}^2 \sigma^2}{\epsilon^2 \mu^2} = \frac{(1.96)^2 (14.266)^2}{(0.25)^2 (8.7595)^2} = 163.03.$$

Fluency:

$$n = \frac{Z_{1-\alpha/2}^2 \sigma^2}{\epsilon^2 \mu^2} = \frac{(1.96)^2 (20.479)^2}{(0.25)^2 (13.90)^2} = 133.420.$$

Reading Comprehension:

$$n = \frac{Z_{1-\alpha/2}^2 \sigma^2}{\epsilon^2 \mu^2} = \frac{(1.96)^2 (0.3261)^2}{(0.25)^2 (0.2040)^2} = 157.09.$$

The second step consisted in the determination of the combination of number of schools and number of students per school that would need to be sampled in order to obtain the ESSs

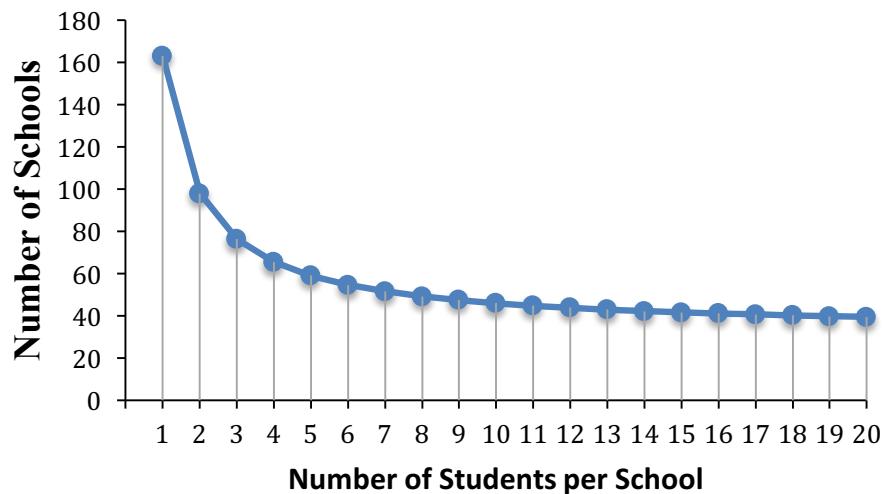
computed in the previous step. The formula for the ESS in cluster sampling is as follows (Chadha, 2006):

$$\text{ESS} = \frac{m \cdot k}{\text{DE}} = \frac{m \cdot k}{1 + \rho(m - 1)}$$

where **m** is the number of students per school, **k** is the number of schools, **DE** is the design effect, and  **$\rho$**  is the intraclass correlation coefficient.

The values of  **$\rho$**  were obtained from the baseline study and were 0.191 for Letter Knowledge, 0.203 for Words per Minute, and 0.170 for Reading Comprehension. Because **k** is directly proportional to **ESS** and  **$\rho$** , the largest sample size requirement would be obtained for Words per Minute, which had the largest values for both variables. Thus, the combinations of schools and students per school needed to estimate the mean for Words per Minute were computed and are shown in the next figure (the sample sizes required for the other variables would be smaller and are not shown):

*Figure 1. Student Sample*



Considering the previous results, we opted for a combination of 55 schools and 6 students per school, which was equivalent to a design effect (DE) of 2.01. Next, we stratified the sample

so that each Educational Region would contain in the sample the same proportion of schools as in the population of Project Read. Table 1 shows the number of schools in the sample for each Educational Region.

*Table 1.* School frequency by Educational Region

Educational Region	Frequency	Percent	Cumulative Percent
04 - San Cristóbal	6	10.91	10.91
06 - La Vega	10	18.18	29.09
08 - Santiago	7	12.73	41.82
09 - Mao	3	5.45	47.27
10 - Santo Domingo	13	23.64	70.91
11 - Puerto Plata	3	5.45	76.36
15 - Santo Domingo	10	18.18	94.55
16 - Cotuí	3	5.45	100.00
Total	55	100	

## Instruments

For the reading component of the End of Second Grade evaluation we used Tangerine, a data collection software that registers student data on literacy and math tests (Kipp, Strigel, & Pouzevara, 2016). We created the Tangerine version of the End of Second Grade evaluation (Sánchez-Vincitore, Garrido, Aguasvivas, & Mencía-Ripley, 2016) under the web-based Tangerine, hosted in UNIBE's servers. We then created the apk files, which are Android installers to place a version of the data collection software on each tablet. The electronic instrument contained the following measures:

**Sociodemographic measure.** The sociodemographic questionnaire gathered basic data on age and home literacy environment.

**Reading measure.** UNIBE constructed a reading assessment instrument for early grades using international standards in 2015. This instrument was used for Project READ Baseline Study (Mencía-Ripley et al., 2016). The instrument showed an adequate factor structure that behaved according to the latent model. The reading assessment for this study used the same

methodology of the original Project READ Assessment Battery but fewer subscales were chosen. The subscales used for the end of second grade reading assessment were: letter knowledge, words per minute, fluency, and reading comprehension.

*Letter knowledge:* Children were asked to say the name of the letters presented on large Andika New Basic fonts at 60 pts. Andika New Basic was developed by the Summer Institute of Linguistics to be used on early literacy materials, since it is designed to enhance letter uniqueness to prevent confusion. Letters were presented in lowercase and uppercase. Letter name was accepted (as opposed to limiting the exercise to letter sound) because the current curriculum in the country does not contemplate phonics instruction; therefore, it is possible that children do not explicitly know the letter sounds. Cronbach's Alpha for this sub test was 0.977 on the Baseline Study (Mencía et al., 2016).

*Correct words per minute:* We created a list of 50 words from second grade textbooks currently in use in the Dominican Republic by the MoE. We selected high frequency words of no more than two syllables. Participants were asked to read the list of words during one minute. In case participants read more than 50 words in a minute, we calculated the actual rate by adding the proportion of correct words per minute to account for the remaining time. Cronbach's Alpha for this sub test was 0.987 on the Baseline Study.

*Fluency:* We created 3 simple stories of 63 words. We selected high frequency words and simple sentence structures. Participants were asked to read the text as fast as they could and stop after one minute. In case participants read the whole text in less than a minute, we calculated the actual rate by adding the proportion of correct words per minute to account for the remaining time.

*Reading comprehension:* We presented children with three stories to read. These were created with high frequency words, very simple sentence structure, few characters, and less than 70 words, following international criteria to create testing materials (USAID, 2009). Participants had to read each story and answer 5 literal open questions after each story. Cronbach's Alpha for this sub test was 0.962 on the Baseline Study. Annex 1 shows the content of Tangerine.

## Ethical considerations

The Read program has IRB approval from UNIBE. As this data collection is part of the global Read project, a new IRB approval was not required. Likewise, since Project Read does not involve biomedical research, the Dominican Republic's National Bioethics Committee (CONABIOS) does not require that we submit the Read program to them. Because Project Read is, however, asking children to participate but does not require personal information to be shared, we did obtain children's consent to participate in the study. Children who were randomly selected to participate but who did not wish to complete the reading assessment were replaced randomly using the same randomization sampling procedure described above. Tangerine is hosted at UNIBE, so no third party has access to our data. In addition, a unique random code has been generated for each participant so that the databases to analyze data do not have participants' personal information.

## Procedure

We installed the Tangerine application (app) on 20 tablets. We created individual users for each enumerator to keep track of the collected data.

The data collection team consisted of 20 enumerators, one field coordinator, and the M&E team. The M&E team gave a 4-hour workshop to the enumerators to ensure standardization of the data collection process. During the training, the enumerators had the opportunity to administer the assessment on a role-play activity using Tangerine. Data collection was completed in two weeks. The enumerators reported daily to the field coordinator using a Whatsapp group for technical and administrative assistance.

There was a 4-step process during each data collection session in the schools: notification to the school authority, random selection of participants, participant assessment, and data synchronization. The MoE and Project READ had previously contacted school authorities so that they knew when to expect the enumerators. Upon arrival, enumerators had to inform the school authority that the assessment was starting. Then the enumerator would be taken to second grade classrooms (one, two, or three sessions) where he/she would write the names of all children in attendance. The enumerator would take the sheet with all student names and then cut the names and place them inside a bag, and randomly draw 6. If a child did not wish to participate, the

enumerator would draw another name from the bag. Assessment of each child was individually conducted on a quiet space provided by the school, and lasted no more than 15 minutes per participant. At the end of the evaluation for each school, the enumerators would synchronize the local tablet data with the web-based Tangerine software using a wireless internet connection. This is an automated process within the Tangerine tablet app that takes about 1 minute, given appropriate internet connection.

### **Methodological differences between End of Second Grade Evaluation in 2016 and 2017**

1. A subtest of fluency was added, as Project-READ 1.3 standard indicator now contemplates fluency on its indicator.
2. We are now using Tangerine, instead of paper version of the test. This has multiple implications:
  - a. The results are available automatically and possible administration errors can be detected immediately.
  - b. We have a new way to register student performance regarding timed tests. In this sense, Tangerine automatically calculates remaining time in case participants finish their test in less than the required time. This allows the research team to calculate true rates, eliminating ceiling effects. This was the case for the variables Correct Words per Minute and Fluency. Since this option was not available in previous versions of the End of Second Grade Evaluations, all comparison analyses were conducted using the conventional CWPM variable, and not the corrected version.

## Results

### **Field Observations**

The proposed sample for this study was 330 students, 6 per school. There was one school that only had 5 children available, therefore total sample was 329.

### **Descriptive Statistics**

A total of 329 second-grade students, who were randomly selected from 55 schools, participated on this study (mean age = 7.42, SD = 0.73). Almost 4.2% of the sample was over 9 years of age, which is considered over-age for second grade (2.1% was 9, 1.2% was 10, 0.6% was 11 years old, and 0.3 was 13 years old). There were 187 female and 142 male participants. Students report that they have 5.15 books on average at home (SD = 9.40), and 49% of the sample reported that someone reads with them at home.

### **Reading Assessment**

Table 2 shows descriptive statistics for the tests used to measure the four selected components of reading (letter knowledge, correct words per minute (WPM), fluency, and reading comprehension). The letter knowledge accuracy rate was 50%, participants read 21.49 isolated words per minute (CWPM), and 24.99 contextual words per minute (Fluency). In terms of reading comprehension, students showed a 45% accuracy rate.

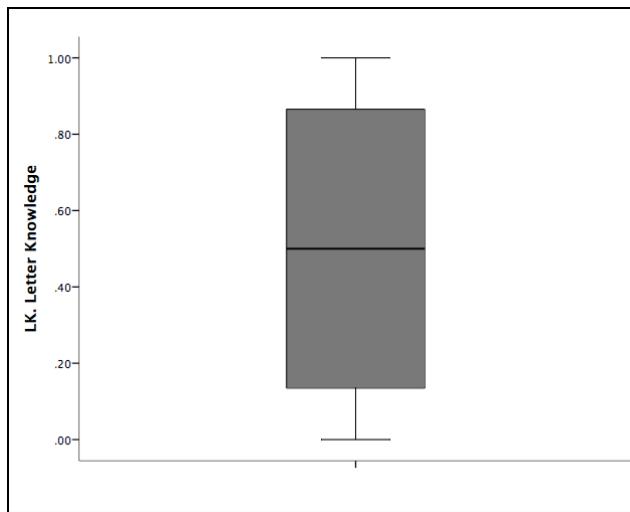
*Table 2. Test and Subtest Descriptive Statistics*

Test/Subtest	N	Min	Max	Mean	S.D.
LK. Letter Knowledge	329	0	1	.50	.34
CWPM. Correct Words per Minute	329	0	75	21.49	21.12
Fl. Fluency	329	0	76.11	24.99	23.14
TRC. Total Reading Comprehension	329	0	1	.45	.43

*Note.* N = sample size; Min = minimal value; Max = maximum value; S.D. = standard deviation; the scale means for LK and TRC indicate the proportion of correct answers; the scale mean for CWPM indicate the mean of words read correctly in one minute; the scale mean for Fl indicate the mean of words read correctly in one minute.

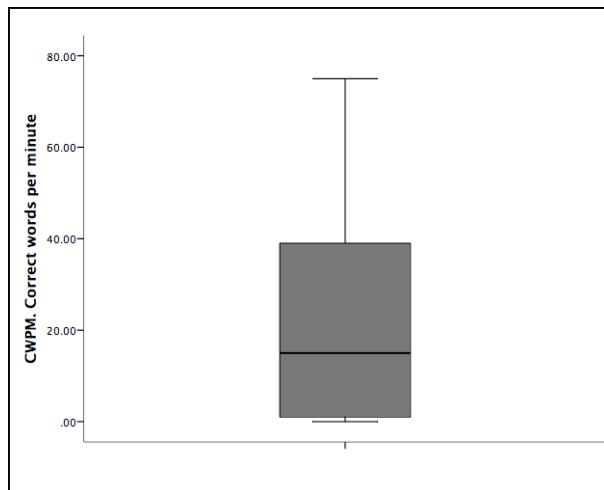
Figures below show a visual representation of each subtest. Boxplots allow an easier interpretation of the results given their presentation in quartiles.

*Figure 2. Letter Knowledge Boxplot*



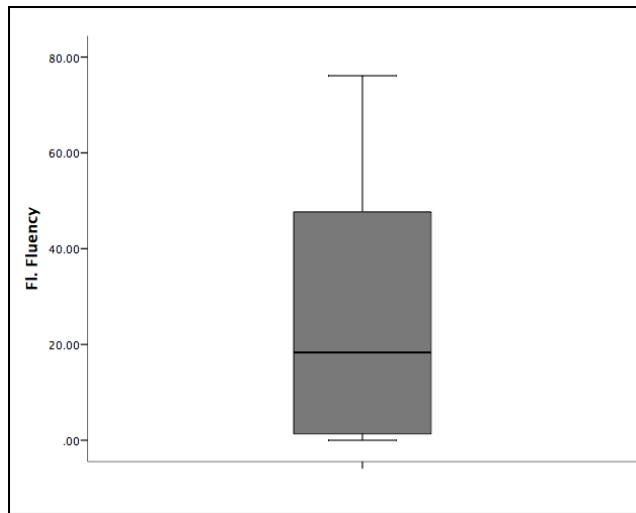
Letter knowledge accuracy at the 25<sup>th</sup> percentile was 13.46%. This means that students with the lowest scores could recognize up to 13.46% of the letters in the alphabet. At the 50<sup>th</sup> percentile, Letter knowledge accuracy was 50%, at the 75<sup>th</sup> percentile it was 86.54%, and at the 100<sup>th</sup> percentile it was 100%.

*Figure 3. Correct Words per Minute Boxplot*



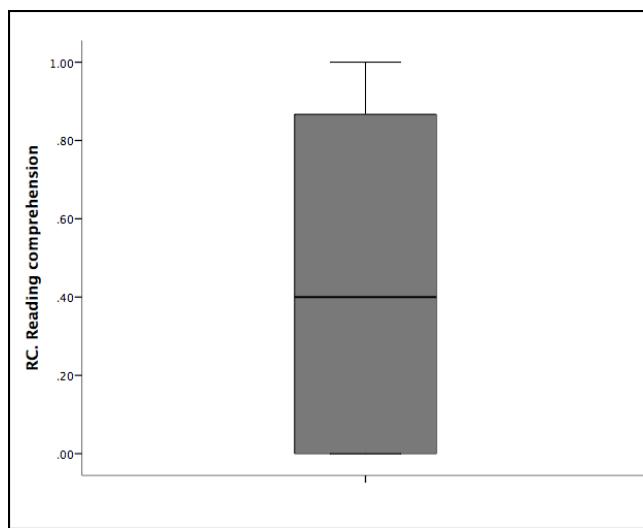
Correct words per minute score at the 25<sup>th</sup> percentile was 1 word per minute, 15 words per minute at the 50<sup>th</sup> percentile, 39 words per minute at the 75<sup>th</sup> percentile, and 75 words per minute at the 100<sup>th</sup> percentile.

*Figure 4. Fluency Boxplot*



Fluency score at the 25<sup>th</sup> percentile was 1 word per minute, at the 50<sup>th</sup> percentile it was 18 words per minute, at the 75<sup>th</sup> percentile it was 48 words per minute, and at the 100<sup>th</sup> percentile it was 76 words per minute.

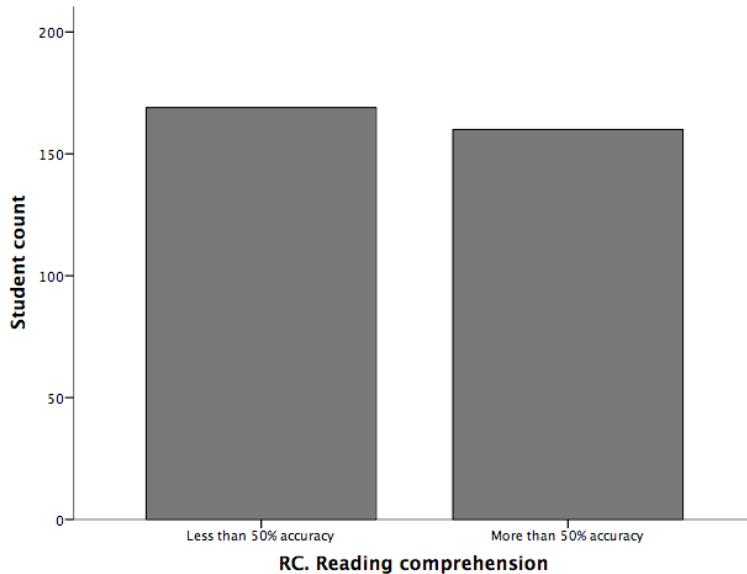
*Figure 5. Reading Comprehension Boxplot*



Reading comprehension score at the 25<sup>th</sup> percentile was 0%, at the 50<sup>th</sup> percentile it was 40%, at the 75<sup>th</sup> percentile, it was 86.67%, and at the 100<sup>th</sup> percentile it was 100%.

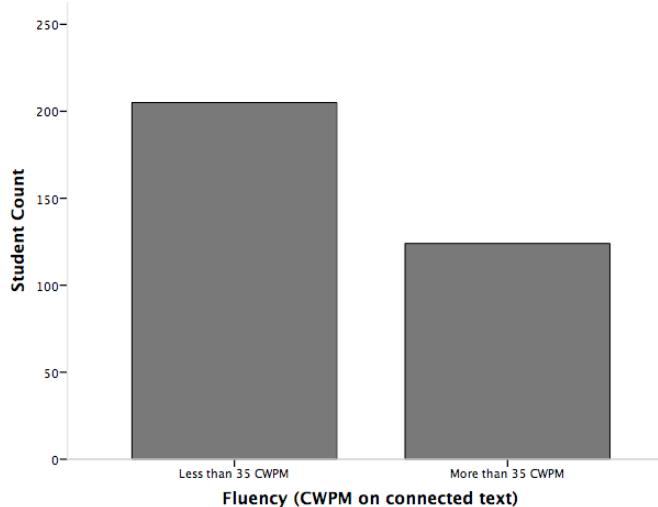
Project Read's indicator 1.3 asks to report the percentage of students who by the end of second grade show evidence of reading comprehension on grade-leveled texts. We conducted a frequency analysis on Reading Comprehension scores. Evidence of reading comprehension consisted of counting students who had more than 50% accuracy rates on the reading comprehension test. This analysis shows that 48.6% of second graders show evidence of reading comprehension on grade-leveled texts. This represents an increase of 8.6 points when comparing the data with 2016's End of Second Grade Evaluation (Sánchez-Vincitore et al., 2016).

*Figure 6. Reading Comprehension Benchmark*



In addition to reading comprehension, the new version of indicator 1.3 asks to report fluency data. In order to obtain this information, we counted students who read more than 35 correct words per minute on connected text (Fluency test). Figure 6 contains the frequency analysis. 37.4% of the sample read more than 35 correct words per minute.

*Figure 7.* Fluency Benchmark



### Comparison between 2016 and 2017 Second Grade cohorts

In order to report project growth, we present a visual representation of data from 2016 and 2017 cohorts. Inferential statistics for these results are not recommended because the design of End of Second Grade studies does not contemplate the collection of pre-intervention data at this grade. This means that we cannot attribute possible change to Project Read's intervention until midline. Nevertheless, it is important to keep track of performance on basic reading sub-components as a screening mechanism to inform project decision making.

*Figure 8.* Letter Knowledge Cohort Comparison

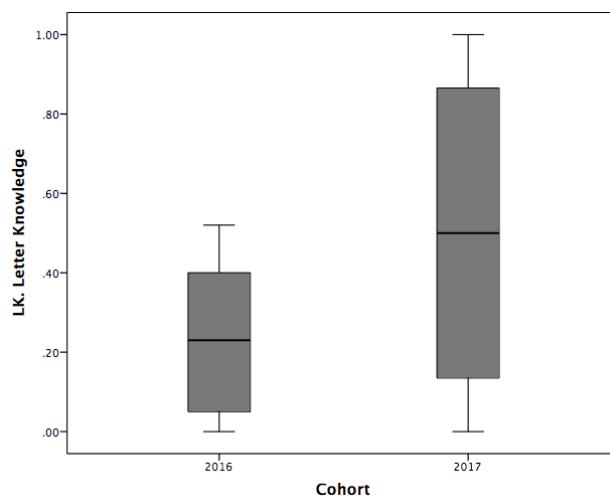


Figure 9. Words per Minute Cohort Comparison

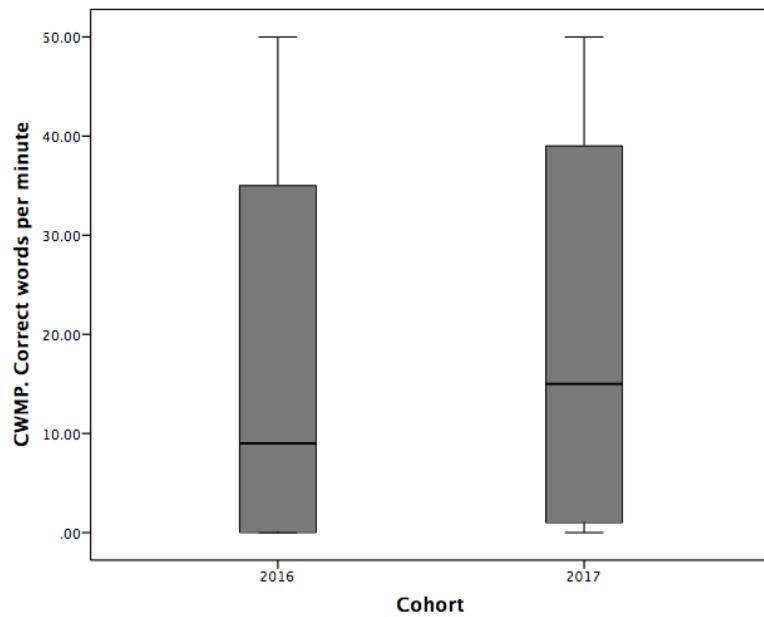
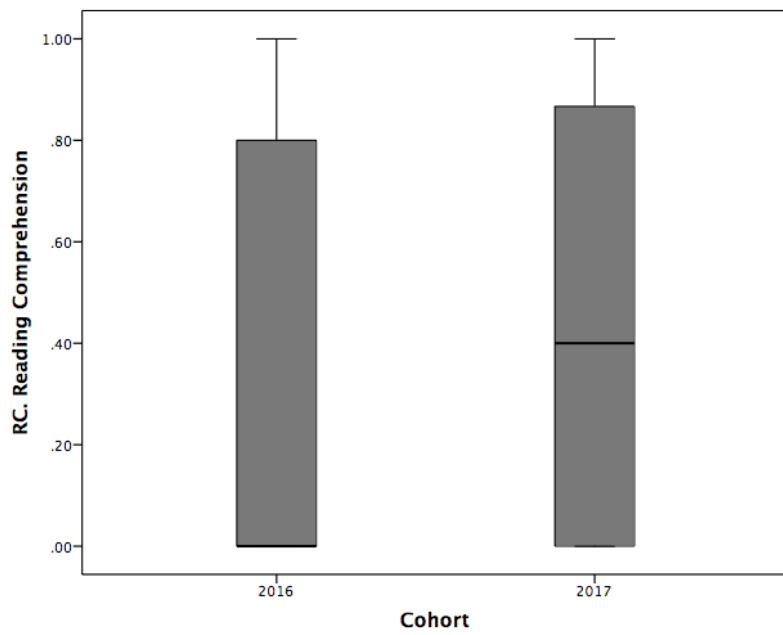


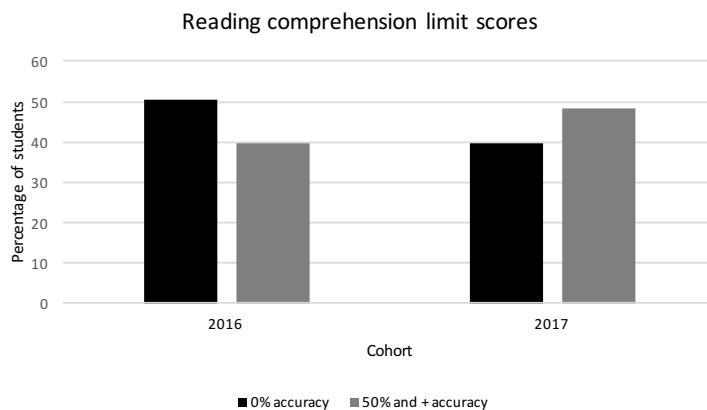
Figure 10. Reading Comprehension Cohort Comparison



## Limit scores

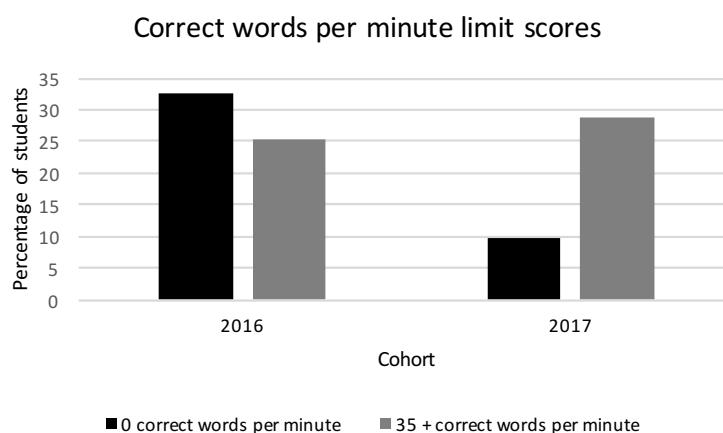
We present a visual representation of changes in low scores and high scores across time. Figure 11 contains information of reading comprehension scores from both 2016 and 2017 cohorts. We selected only the cases of participants who scored 0 (non-readers) and compared to those who reached the established benchmark (50% accuracy). As seen in the figure, the percentage of non-readers is less in the 2017 than 2016. Also, the percentage of children at benchmark is larger in 2017.

*Figure 11.* Reading Comprehension Limit Scores



We conducted the same limit score frequency analysis with correct words per minute, comparing non-readers (students who scored 0 correct working memory) with children at benchmark (more than 35 correct words per minute). The figure shows that there are less non-readers, and more students at benchmark in 2017.

*Figure 12.* Words per Minute Limit Score



## Inferential Statistics

We conducted an independent sample t-test in order to determine if there were differences between boys and girls in all variables. We found that girls perform slightly better than boys in all components of reading. This is evidenced by statistically significant differences between the groups, with a small effect size.

*Table 3.* Mean comparison between boys and girls

Variable	Boys			Girls			Equivalency of Means				
	N	M	SD	N	M	SD	df1	df2	F	p	$\eta_p^2$
LK	142	.446	.352	187	.547	.331	1	329	7.10	<u>.008</u>	.021
CWPM	142	17.80	20.97	187	24.31	20.85	1	329	7.911	<u>.005</u>	.024
FL	142	20.58	22.76	187	28.34	22.92	1	329	9.310	<u>.002</u>	.028
RC	142	.356	.421	187	.523	.424	1	329	12.691	<u>0.000</u>	.037

*Note.* N = sample size; M = mean SD = standard deviation; df1 = numerator degrees of freedom; df2 = denominator degrees of freedom;  $\eta_p^2$  = partial eta squared; LK = letter knowledge; CWPM = correct words per minute; RC = total reading comprehension; mean scores for CWPM indicate mean words read per minute; the rest of scores indicate the average accuracy rate; significant differences appear underlined.

## Months of mentoring

We ran bivariate correlation analyses to establish the relationship between months of mentoring received at the school level and the variables of interest (letter knowledge, correct words per minute, fluency, and reading comprehension). We hypothesized that the reading variables would be positively correlated with months of mentoring received at the school level. The results show no statistically significant correlation between months of mentoring received at the school level and Letter knowledge ( $r = -.045, p = .413$ ), Correct words per minute ( $r = -.033, p = .552$ ), Fluency ( $r = -.06, p = .279$ ), or Reading comprehension ( $r = -.065, p = .24$ ). This means that there are no correlations between time of mentoring and reading outcomes at this time.

## Discussion

The end-of-second-grade report is the result of the evaluation conducted at the end of grade 2 in schools that receive Project Read's programming. An evaluation conducted half way through the literacy process is important since it captures student progress and in the context of this project, allows M&E to inform the intervention team on progress as well as challenges to the intervention approach. This is the second of a series of 5 End-of-Second-Grade evaluations to be conducted during Project Read's life.

Performance of the 2017 cohort showed a better performance than students at baseline, and what is more important, they showed a better performance than students from the 2016 End-of-Second-Grade cohort. Specifically, there are less non-readers (who scored 0 in both correct words per minute and reading comprehension) in the 2017 cohort compared to the 2016 cohort.

Regarding benchmarks to report Project Read's 1.3 indicator, almost half of the sample reached 50% comprehension accuracy scores, and more than third of the sample could read 35 words per minute or more. An interesting result is that girls show better performance than boys on all reading variables. This is a robust finding reported in the education and psychology literature across countries, and it could be due to linguistic advantages that girls usually have both from neurobiological differences and differential socialization of verbal skills.

For this End-of-Second-Grade Evaluation, we included schools that started Project Read in 2015 and 2016. We conducted an additional correlation analysis to determine if length of project was correlated with reading abilities. There was no correlation between the time the project had been in schools and reading outcomes, which indicates that the possible modification of outcomes that could be attributed to Project Read, could be reached in a few months, and project maturity, at least the way it is currently conceptualized, is unrelated to student outcomes.

Although there is evidence of improvement in reading outcomes for the 2017 cohort, most second grade students are still below international benchmarks for first grade. This means that the intervention, although it is working, is not yet strong enough to elicit large changes in terms of outcomes, although considering baseline scores achieving international benchmarks requires system wide efforts that are above and beyond the scope of this intervention.

In addition to the aforementioned need for systematic MoE efforts to improve reading, which are being implemented and will increase starting the fall 2017, children may have difficulty reaching benchmark for other reasons, such as the pervasive effects of poverty in neurocognitive development. In the Dominican Republic, poverty is largely concentrated in children, making this a reasonable possibility that requires further study. Participants from the baseline study had low oral comprehension scores, which evidences an immature linguistic system, from which literacy skills depend. If this is the case, the improvement shown by Project Read are what is reasonable to expect. However, we cannot rule out this hypothesis until we conduct the midline evaluation, and we assess the control group. Another option is to conduct an additional study within Project Read that allows us to measure home literacy environment and socioeconomic resources. There is a national database on poverty and we will make efforts to obtain it in order to conduct a secondary analysis that explores potential effects of poverty on literacy.

Another possibility is fidelity of implementation. While teachers receive mentoring, that includes observation of classroom practices, they may not adhere to the intervention in the absence of those sessions in which they are directly observed. We will soon have the data on how many teachers have successfully evidenced implementation and so we will be able to have a definitive answer to this issue.

Another factor impacting scores is that MoE has not authorized the implementation of all of Project Read's components such as materials created to teach the alphabetic principle as well as a series of decodable texts. The materials were created during the summer of 2016, but MoE has only recently approved their use. Once all components are implemented, we expect to see further gains in reading scores.

These results of this evaluation will be discussed during the summer of 2017 with the technical team, coordinators, mentors, and teachers, for a qualitative study to complement this report. We will discuss all aspects of the intervention, that include teacher training, teacher mentoring, development and distribution of grade-leveled reading material, official training documentation, and community program to identify best practices and further systematize them and to identify specific areas or school that may need more targeted intervention.

Broadly speaking, children involved in Project Read show improvement in letter knowledge, words per minute, fluency, and reading comprehension. The Project Read team will make all efforts to make the intervention effective for all children enrolled.

Recommendations:

1. Conduct a qualitative study to deepen our understanding of which of these challenges the intervention can tackle and to identify others challenges that we may not be aware of. This study should include all intervention stakeholders. This study should yield information on specific actions to be undertaken and implemented by the literacy and teacher training team during year 3 of the intervention.
2. Conduct a correlational study on socioeconomic factors associated with early literacy to better understand the process affecting children's ability to acquire basic reading skills.
3. The recommendations to use the alphabetic principle material and the decodable texts were made based on sound scientific evidence that they work to improve reading in early grades. In that sense, the intervention has always recommended proven strategies to improve reading. However, the degree to which the ministry is willing to use them is beyond the scope of this project. That being said, Project Read officials will continue to engage MoE in the use of evidence based methods to improve reading while being mindful of cultural sensitivities and viewpoints.

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## Annex

### A continuación, señalamos el procedimiento para recolectar los datos:

Directores y Docentes: Al llegar a la escuela entregarán al director o directora y a los docentes de segundo grado de primaria:

1. El documento de consentimiento informado y
2. El cuadernillo con las preguntas de violencia de género.

Si el director y docente están de acuerdo con participar pueden permitir que se lleven los cuadernillos para llenarlos.

**OJO:** La participación de los directores y docentes es voluntaria. Si alguno no desea participar simplemente retire el cuadernillo.

Luego de entregar los cuadernillos a los docentes y director, puede proceder a dirigirse a los cursos de 2ndo de primaria.

Estudiantes: Seleccionará 6 estudiantes de cada aula de segundo grado de primaria. La selección debe ser de manera aleatoria. Para lograr esto, podrá anotar el nombre de todos los niños del curso en una hoja. Luego corta los nombres y dobla el papel con el nombre de cada niño. Luego proceda a mezclar todos los papeles doblados y seleccionará 6 papeles. En esencia, como si se estuviese realizando una rifa. Los niños cuyos nombres aparezcan en los papeles seleccionados son los que reciben la evaluación de lectura, la cual se encuentra en la tableta.

**OJO:** Antes de iniciar la evaluación de lectura, es importante preguntarle al niño si está de acuerdo con que sea evaluado. Si el niño no quiere participar, se debe seleccionar otro niño utilizando el método de selección antes descrito.

*Procedimiento para el uso de las tabletas:*

#### **¿Qué es Tangerine?**

Es un programa para tabletas que permite registrar información a través de formularios electrónicos. El proyecto USAID Leer utilizará este programa para levantar datos de acompañamiento entre otras investigaciones.

#### **¿Cuáles formularios están disponibles?**

1. Formulario de acompañamiento
2. Prueba de fin de segundo

La pantalla de inicio de Tangerine es así:



1. Escriba su nombre de usuario donde dice “User Name”, y su contraseña donde dice “Password”. Su código y contraseña está localizado en la parte de atrás de su tableta pegada en un label.
2. Presione “Login” para entrar a la plataforma.

La plataforma de Tangerine programada para USAID-Leer se ve así:



Verá 2 formularios:

- 01 Formulario de Observación Docente 2017
- Evaluación de Fin de Segundo Grado Final.

Cada vez que usted vaya a hacer una **prueba de fin de segundo**, deberá presionar el formulario “Evaluación de Fin de Segundo Grado Final”, y llenar la información que el formulario le pide.

Presione el triángulo a la izquierda del formulario que quiera llenar (es como el botón de play de un radio).

**Llenar el formulario según lo solicite la aplicación.**

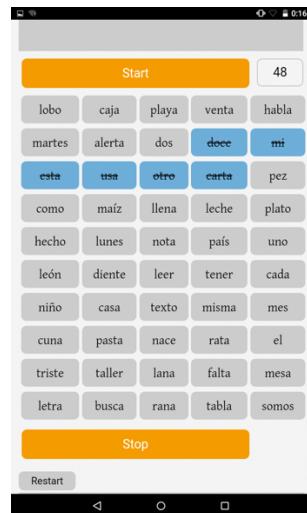
## Prueba con tiempo: Prueba de palabra por minuto

Debido a que son pruebas más complejas de administrar, las pruebas con tiempo se describen aquí.



Usted entregará al estudiante la hoja que contiene las palabras que debe leer.

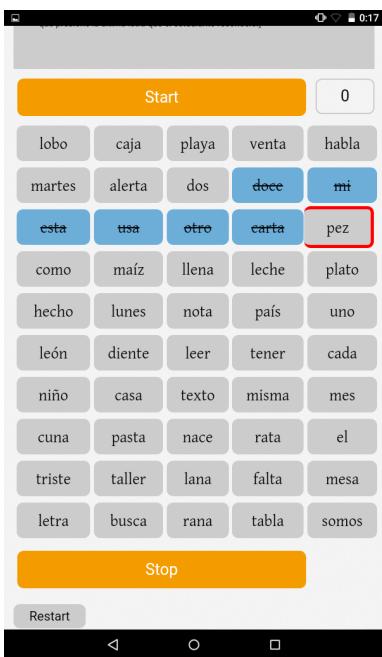
Presionará el botón “Start” y verá que en las casillas grises aparecerán las palabras, y que el tiempo empieza a correr.



Su función será presionar cada palabra que el estudiante lee de manera **incorrecta**.



Cuando se acabe el tiempo, el programa le indicará que presione la última palabra que el estudiante intentó leer.



Cuando usted marque la palabra, aparecerá un borde rojo en la casilla que seleccionó.

En caso de que el estudiante termine todas las palabras antes de que se termine el tiempo, presione "Stop".

## Grabar la observación en la tableta

01 Formulario de Observacion Docente 2017

Assessment complete

**Save result** Not saved yet

**Additional comments (optional)**

**Subtests completed**

A1-4 - Datos Generales del Centro	4 items
A5-11 - Datos Sociodemográficos Aula:	8 items
A12 - Si asistió a capacitación indique la fecha:	4 items
A13-14 - Datos Sociodemográficos Aula:	2 items
A16 - Fecha de la Observación:	4 items
C - Instrumento 1: Práctica Pedagógica del o la docente:	24 items
D - Información Recolector/Registro Datos Palabras por minuto: Estudiante 1	2 items
PARTE E: Lectura de Palabras - Estudiante 1 Palabras por minuto: Estudiante 2	1 item
PARTE E: Lectura de Palabras - Estudiante 2 Palabras por minuto: Estudiante 3	50 items
PARTE E: Lectura de Palabras - Estudiante 3 Localizador	1 item

Esta página es una confirmación de todo lo que usted ha registrado. Si quiere escribir algún comentario sobre alguna eventualidad, por favor escríbalo aquí. Si está listo para grabar, presione

“Save result”

01 Formulario de Observacion Docente 2017

Assessment complete

**Perform another assessment** **Result saved**

**Subtests completed**

A1-4 - Datos Generales del Centro	4 items
A5-11 - Datos Sociodemográficos Aula:	8 items
A12 - Si asistió a capacitación indique la fecha:	4 items
A13-14 - Datos Sociodemográficos Aula:	2 items
A16 - Fecha de la Observación:	4 items
C - Instrumento 1: Práctica Pedagógica del o la docente:	24 items
D - Información Recolector/Registro Datos Palabras por minuto: Estudiante 1	2 items
PARTE E: Lectura de Palabras - Estudiante 1 Palabras por minuto: Estudiante 2	1 item
PARTE E: Lectura de Palabras - Estudiante 2 Palabras por minuto: Estudiante 3	50 items
PARTE E: Lectura de Palabras - Estudiante 3 Localizador	1 item

Usted verá este mensaje indicando que ha grabado el resultado.

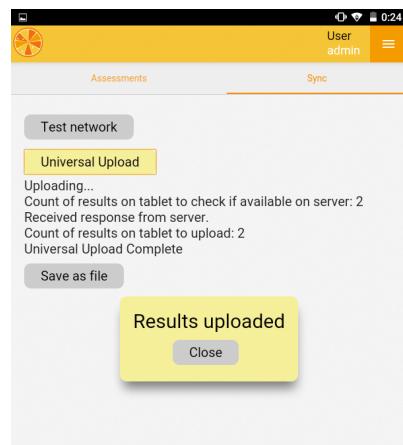
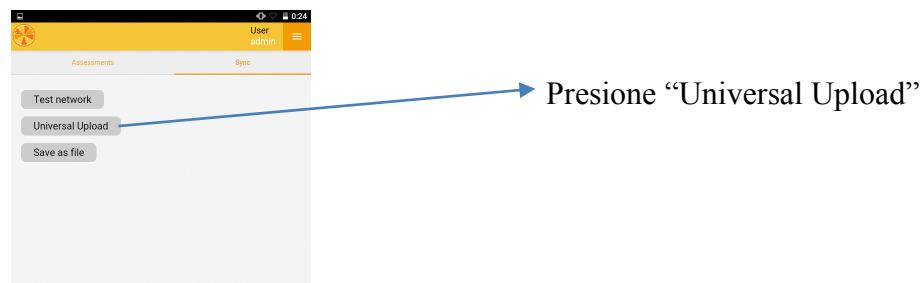
Puede volver a la página de inicio, presionando el ícono de Tangerine

O puede realizar otra evaluación presionando el botón “Perform another assessment”

**Para enviar los resultados a UNIBE**

Cuando usted se encuentre en un lugar con internet, es importante que envíe los datos que tenga la tableta a UNIBE. Para hacerlo:

Presione la página de inicio en el ícono de Tangerine.



Si ha sido exitoso, verá este mensaje.

Al finalizar la evaluación de los niños, puede dirigirse al director y docentes para recoger los cuadernillos.

Debe guardar la información de los docentes en un lugar seguro al cual solo usted tenga acceso data la naturaleza de la información recolectada. Cuando finalice el levantamiento de datos, llenará la hoja control que se encuentra en la última página de este instructivo.

Los cuadernillos serán entregados a la oficina del Decanato de Investigación en el piso 10 del edificio Francia I de UNIBE. Los evaluadores del interior del país deberán entregar los cuadernillos a su coordinador correspondiente, y este lo llevará a UNIBE durante su próximo encuentro en mayo de 2017. Deberá también entregar la hoja control antes mencionada. La persona que entregue el documento al destino final (Decanato de Investigación) recibirá una hoja de entrega la cual deberá firmar para dar constancia de la entrega.