Research Article

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Reading and Young Adults Self-Directed Learning

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Abstract

The present study investigates the role of reading literacy in promoting self-directed learning for young learners. It examines the readiness for self-directed learning of 209 young adults aged 17 to 19 years old as they transition from high school to post-secondary education. This quasi-experimental study uses action research led by five teachers to compare students' readiness for self-directed learning with reading in two scenarios: an experimental group read in a self-directed learning environment outside classrooms and a comparison group read inside the classroom in a teacher-directed environment. It is part of a 3-year longitudinal research that observes policy discourse across multiple layers of institutional hierarchy. Quantitative analyses indicated some relationships between teacher-directed and self-directed learning in terms of increasing students reading avidity and decreasing students' perception about their readiness for self-directed reading. The findings of this study have implications for researchers and teachers studying self-directed learning with reading for young learners.

Keywords: *Pleasure reading, self-directed learning, young adults, policy discourse. educational policy*

1. Introduction

During Covid 19, many educational systems around the world accentuated the need for self-directed learning. In Morocco, the ministry of education issued an educational policy (039/20) late 2020 to instantiate an alternated mode of education during the pandemic. It is a rotation pattern between self-directed learning and the classical teacher-directed instruction at schools. The policy is holistic and interdisciplinary which yields heterogenous interpretations. In English language teaching context, most of the self-directed learning tasks address receptive skills (reading and listening). The study examined the role of reading literacy in sustaining students readiness for self-directed learning.

2. Background and Relevant Literature

2.1 Reading Literacy

The Organization for Economic Cooperation and Development (OECD) launched a Program for International Students Assessment (PISA) in reading literacy, numeracy, and science. Unlike the

general definition of reading as converting sounds into texts, PISA explains that "reading literacy is defined as students' capacity to understand, use, evaluate, reflect on and engage with texts in order to achieve one's goals, develop one's knowledge and potential, and participate in society" (OECD., 2019, p. 27).

Exploring the role of reading literacy in promoting young learners self-directed learning is a recent line of research. First, because "the concept of self-directed learning suggests associations of freedom, autonomy, independence, student centeredness and learner primacy all of which are pleasing to the democratically inclined outlooks of those working in adult education" (Brookfield, 1985, p. 19). Yet, there are relatively few studies that have explored self-directed learning for young adults.

Second, there has been numerous research about reading literacy and academic achievement, beliefs about literacy and literacy development (Cho & Krashen, 2015; S. D. Krashen, 2011; Zimmerman, 1990). In Morocco for example, research literature examined extraneous variables and metacognitive factors that influence reading literacy (Click et al., 2016; Wagner & Spratt, 1988). But few studies have conducted experiments about reading literacy to sustain learning soft skills. The present study seeks to understand: (1) How can pleasure reading sustain students' readiness for self-directed learning?

2.2 Self-selected reading theory

In school free reading activities may introduce a promising policy to sustain students' self-regulated learning. Self-selected reading theory suggest that learners engage more with self-selected reading materials. In a study of the influence of pleasure reading on students' language proficiency, Krashen (2011) noted that:

> *… (3) Readers acquire best when they are not aware that they are improving. They are only aware of the content of what they have read. (4) The more we check comprehension, the less readers understand and the less they acquire.(p. 81)*

The study is inspired by Krashen conceptualization in two major ways. First, free reading activities may encourage students to instantiate self-directed learning skills because it is an effortless task. Second, pleasure reading transfers learning accountability to learners. Students read for pleasure without being tested. So, instead of assigning post-reading tasks, teachers in a self-directed learning environment made reading task-free activity.

In response to some critics about young learner's accountability, Krashen stated that "Von Sprecken and Krashen (1998) observed SSR classes in a middle school in the middle of the school year and reported that 90 percent of the students were engaged in reading" (S. Krashen, 2005, p. 3). Other researchers (Cho & Krashen, 2015; Mason, 2019) suggested to guide students through an initial pleasure reading activity to prepare them for self-selected reading activity. Similarly, in self-directed learning theory, it is noted that there are 'degrees of autonomy'(Nunan 1997: 192 in Benson, 2007, p. 23) and teachers need to guide students towards an advanced stage of self-direction and accountability.

2.3 Self-directed learning

Research critiqued the culture of reliance nurtured in various educational systems. For some scholars, it is not "healthy— or even humane— for a person to be kept permanently dependent upon a system or upon another person.(Knowles, 1975, p. 11). In the same respect, literature investigated some possible ways to decentralize learning process.

The Council of Europe Modern Languages project pioneered research in autonomous learning. They contributed in Holec's foundational definition of autonomy in learning as"the ability to take

charge of one's own learning" (Benson, 2007, p. 3). However, Benson argued that learners autonomy is gradual and 'can take numerous different forms, depending on their age" (2007, p. 23).

The variance of learning autonomy according to age is controversial. Self-directed learning theory captures the gradual aspect of young learners' autonomy. In his seminal work, Knowles claims that "the human being grows in capacity (and need) to be self-directing as an essential component of maturing, and that this capacity should be nurtured to develop as rapidly as possible" (1975, p. 20). For young adults, there seem to be a very strong link between teachers' autonomy and students' self-directed learning. Therefore, the development of self-directed learning instruction is secondary to teachers' beliefs and practices. Little adds "teachers must learn how to produce and manage the many varieties of target language discourse required by the autonomous classroom" (2007, p. 27). Self-directed learning theory proposes a model where learning is participatory and meaningful (Garrison, D. R., 1997; Grow, 1991; Knowles, 1975).

The present study purports to examine self-directed learning policy for young adults with reading. Self-selected reading theory (Cho & Krashen, 2015; S. D. Krashen, 1993, 2011) claims to be participatory and meaningful. It suggests that two factors are inescapable parts of reading intervention," access to reading material and duration of treatment" (2011, p. 34). The paper investigated on the two factors to explore how reading for pleasure will promote young learners' self-direction.

3. Research Method

3.1 Research design

To examine the impact of self-selected reading on increasing students' readiness for self-directed learning, a thirteen-week action research was designed and conducted in three different high schools in Morocco. Five teachers (two female and three male teachers) were recruited to participate in the research as co-researchers. They observed, take field notes, and analyse students' interactions during reading interventions. After surveying students' reading interests, teachers complied a reading file. Students were required to independently choose a reading item from a list of more than 50 reading materials (short stories, magazines, newspapers, comic books, etc.). Because the study is quasi-experimental, students belong to different classes. They were randomly assigned to a control group of teacher-directed readers or an experimental group of self-directed readers.

3.2 Pilot study

3.2.1 Aims and Participants

The aim of the pilot study is to test and refine a survey-instrument with eleven items proposed for self-directed reading readiness scale (SDRRS) based on Guglielmino's readiness scale (L. M. Guglielmino, 1977). These items were presented in three factors: demographics (4 items) beliefs about reading (4 items) and management of reading (3 items). The items were measured on a 3-point Likert scale with 1= agree and 3= disagree.

A total of 130 young adult students from three different high schools in Morocco participated in the pilot study. The median age was 18.5 (S.D.= 0.70) among which 66.6% females. Participants were informed that they can choose survey language (Arabic or English). 75% answered in Arabic and 24.4% answered in English. Students who answered in English constitute the sample of the experiment. Students were debriefed about the purpose of the study and informed of their rights not to participate or withdraw at any time during data collection.

4. Results

Table 1: Results Of Pilot Study About Reading Beliefs And Management

Reading beliefs items	mean	SD	Skewness	Kurtosis
Reading is an important skill.	2.4	0.8	-1.4	1.4
I like reading.	1.8	0.8	0.5	-0.6
Most of my readings are for pleasure not for school.	1.2	0.4	2.2	5
I read to become better at a skill that I am interested in,e.g,: learn a language.	1.5	0.8	1.5	1.4
Items for management of reading				
I understand lessons by reading more.	1.2	0.4	2.2	5
I read to get ideas from different perspectives about a topic	1.2	0.4	2.2	5
I can independently find interesting reading materials.	1.8	0.8	0.5	-0.6

The descriptive statistical analyses show that the mean score of all items range from 1.2 (item 5 and 6) to 2.4 (item 1). The standard deviation ranges from 0.4 to 0.8 and the skew and kurtosis indices from-1.4 to 2.2 and -0.6 to 05 respectively. The results indicate a normal distribution for the mean and SD but requires a review of Likert point scales because skewness and kurtosis results are not skewed towards the mean.

The pilot study resulted in two interpretable factors that explained the skewness of data. First, the 3 point-Likert scale (1= agree and 3 = disagree) does not lead to significant variance in respondents' answers. Second, at the factorial level, the two domains of the instrument (beliefs and management of reading) were positively correlated with r= .302. The positive correlation indicates that each item was contributing to the overall structure. The results of the pilot study show that the instrument with two factors is reliable to proceed to an experimental study but needs to allow for more variance at Likert scale.

4.1 Study 2: the experiment

The aim of the experiment is to examine the influence of two scenarios on students' readiness for self-directed reading: self-directed reading and teacher-directed reading. The interventions started with a pre-test modified from the pilot study. The aim is to compare students' beliefs and management of reading post-hoc interventions. The experiment lasted for 13 weeks, from 24th February,2021 to 29th May 2021.Five teachers participated in the study as co-researchers. Their role is to observe, take field notes and provide feedback to modify research design. Prior to their participation, teachers were surveyed about beliefs, management, and practice of self-directed learning.

Table 2: Teachers Beliefs And Management Of Self-Directed Learning

Teacher	Experience in years ()	Belief about SDL (7)	Management of SDL
1	01	3	2
2	15	5	2
3	10	5	3
4	5	4	3
5	6	3	3
mean	7.4	4	2.6

The results show that the mean for teachers' experience is 07.4 years. In an earlier study "Author (2021)" the findings indicate that teachers with less than five years of experience are more likely to participate in research to change policy and practice. Teachers were surveyed about their teaching practices (1= student-directed and 5= teacher-directed). Most of the surveyed teachers believed that

teaching practices are inclined towards teacher-direction with a mean of 4.0 with SD= 1.0. Besides, teachers' management of the alternated mode (in-person and self-directed learning) was expressed with a mean of 2.6 (1= poorly managed and 5= ideally managed).

Most teachers indicated that receptive skills constituted major components of self-directed learning in public schools with a mean of 3.2 (1= structure, 2=functions, 3= receptive skills and 4= productive skills). Reading and listening were assigned as self-directed learning activities with a standard error of 0.2. The study shed light on self-directed learning tasks with reading.

5. Participants

A total of 79 young adult students with median age of 18.5 years old from three different high schools in Morocco participated in the study. The students were from ten different classes and instructed by five different teachers. Every participating teacher examined two classes (control and experimental groups). The study is quasi-experimental, and participants were chosen non-randomly from other classes.

The participants were purposefully assigned groups (students stay in their classes). Teachers select class to be control groups and another for experimental groups randomly. Both groups were assigned similar reading material. Self-directed readers (N=45) selected their reading passage without the guidance of the teacher and were not assigned a post-reading task. Teacher-directed readers (N=34) were to return a post-reading task.

Procedure

Figure 01 shows the experimental procedure of the study. In the beginning, the main researcher surveyed teachers in three high schools about their beliefs, management, and practices of self-directed learning. Later, five teachers agreed to participate in the research and were invited to focus group interviews to prepare for action research.

The present action research seeks to increase students' readiness for self-directed learning using reading activity. In the first focus group meeting, teachers discussed goals, cycles and outcomes of action research. In the second meeting, teachers created WhatsApp groups and provided a list of reading material with audio files. Then, teachers designed a learning contract for teacher-directed readers and discussed some external incentives for self-directed readers. Prior to starting the action research, both groups of students were pretested using the survey instrument after validation.

Self-directed readers	Teacher-directed readers	Teachers	Period
Creating WhatsApp groups *Planting reading trees* *Pre-test*	Creating WhatsApp groups Learning contract Pre-test	Focus group Survey teachers Observing some reading classrooms Action research guidelines Choosing reading materials Assigning groups Developing learning contract for SRR.	24th February- 24th March
Free reading activity twice a week for 15 minutes outside the classroom *Extensive reading at home.*	Read assignment with Learning contract Read a chosen story	Assign reading Fieldnotes	25th March- 24th April
Free reading three times a week for 20 minutes outside the classroom. *Extensive reading at home.* *Post-test*	Select story to read Perform post-reading task. Evaluate students reading achievements Post-test.	Assign reading Observe students Check learning contracts	25th April- 29th May

Figure 1: The Experimental Procedure Of The Study

So as not to influence students' choices, teachers were asked not to explain the purpose of the study for students. After the pertest, teachers agreed to introduce the reading activity to control and experimental groups in different ways. Both groups used their mobile phones for reading. The use of mobile phone was imposed by healthcare measures during Covid 19.For the control group (teacher-

directed readers), students used their mobile phones inside the classroom to read. Teachers explain that students must meet the requirements of the learning contract to be graded. In the first week, teachers selected the story to be read by the whole class. They dedicated the last ten minutes of class for initiating reading activity. Students had to complete a post- reading task at home. The reading time increases by five minutes every week. By the end of the research, students were reading for twenty-five minutes twice a week.

For the experimental group, teachers explained that mobile phones were used for reading activity outside the classroom (often in the school yard). Teachers discussed the importance of reading and motivated students to complete a reading challenge. Teachers and students planted a lemon tree and agreed that class members must attempt to read more than the leaves of that tree.

Teachers explained that students should select a story by themselves from the list and that they will not be assigned post reading tasks or graded. It was reading for pleasure. The reading activity time is the same as the control group and increased gradually. Every week, teachers surprised experimental group students (self-directed readers) with some irregular stimuli, for example: watching a movie, giving chips while reading, playing field games, etc.

In the following nine weeks, students from both groups were asked to engage in reading activity. For the control group, they measure their progress against the learning contract. For the experimental group, they were independently choosing, evaluating, and setting their reading goals. After thirteen-week experiment period, students took a 15 minutes post-test .

6. Instrument and Data Collected

The survey instrument regarding readiness for self-directed learning was developed based on the scale proposed by Guglielmino (1977) and Guglielmino and Roberts (1992). Two factors from language management theory (Spolsky, 2009) are used in the survey with a total of seven items. Four items for 'beliefs about reading' (item 1,2,3 and 4), and three items for 'management of self-directed reading' (item 5,and 6) and one item for self-directed reading management and practice (item 7):" I can independently find interesting reading materials". Each item was scored on 5-point Likert scale where 1= totally agree and 5= totally disagree. The Cronbach's alpha values of the two factors were 0.82 and 0.79 implying high reliability for the instrument.

The same instrument is used for post-test after thirteen-week experiment. During the study, readiness for self-directed reading was calculated in terms of the assignments covered in the learning contract by the teacher-directed readers, and the number of reading materials read by self-directed readers. Teachers observed readiness for self-directed reading in both groups. Students in comparison group return reading assignment every week. For experimental group, self-directed reading required less control and therefore monitoring, evaluating, and directing were not performed.

7. Data Analysis

Descriptive statistics is employed to calculate readiness for self-directed reading using various variables: beliefs and management of self-directed reading, self-selected reading, the amount of post reading tasks and the number of reading materials covered. To compare teacher-directed and self-directed reading on students' readiness for self-directed learning a two-way ANOVA test was conducted.

Two-way ANOVA distinguishes two independent variables: teacher-directed and self-directed reading and one response variable: readiness for self-directed reading. The test compared students' readiness for self-directed learning in control and experimental group before and after 13-week intervention. The experiment examined correlation between self-directed reading intervention and readiness for self-directed reading.

7.1 Analysis of beliefs about self-directed reading

The null hypothesis investigated the negative influence of teacher-directed reading on students' readiness for self-directed reading. A two-way ANOVA test was conducted to assess the influence of two interventions: teacher-directed and self-directed reading on students' readiness for self-directed reading as indicated by the survey instrument before and after 13-week intervention. Readiness for self-directed reading is the response variable, while self-directed and teacher-directed reading are independent variables.

Table 3: Comparison Of Central Tendency Of Reading Avidity Before The Interventions

Items about reading avidity	Experimental group			Control group		
Reading is an important skill.	Mean	SD	Median	Mean	SD	Median
	2.1	1.6	1	1.6	1.13	1
I like reading.	1.9	1.4	1	1.6	1.13	1
Most of my readings are for pleasure not for school.	2.3	1.2	2	2.4	1.56	2
Adjusted mean	2.1			1.86		

Regarding the comparison of reading avidity and management of reading between the two groups, the study employed three measurement tools: mean, standard deviation and median. The use of mean without the median can be misleading as a measure of central tendency. The mean in this situation resulted in higher value than the central tendency group. The analysis of students answers in the pre-test shows that results are positively skewed (many high scores with few low scores).

The table allows for a comparative study of the means of both control and experimental groups. In cases where the mean is higher than the value of central tendency, we cross-checked using the median. Before the intervention, the mean for avidity of reading for the experimental group was 2.1 (SD= 1.4) while the control group scored a mean of 1.86 (SD= 1.27). As mentioned earlier, the study used a 5-points Likert scale where 1= totally agree and 5= totally disagree. To establish confidence intervals for the three items in reading avidity, the results read <2.69 and > 1.55. Therefore, the table shows that the mean of both experimental and control group is confirmed.

Table 4: Comparison Of Central Tendency Of Reading Avidity After The Interventions

Items about reading avidity	Experimental group			Control group		
Reading is an important skill.	Mean	SD	Median	Mean	SD	Median
	1.94	1.43	1	1.82	1.19	1
I like reading.	2.27	1.48	2	2.14	1.25	2
Most of my readings are for pleasure not for school.	2.27	1.40	2	2.55	1.43	3
Adjusted mean	2.16; - 0.6			2.17; - 0.31		

The post-hoc results indicate a regression in the mean of both control and experimental groups. The mean for reading avidity scored 2.16 for experimental group with - .6 regression and 2.17 for control group with -.31 regression. Conversely, there is an increase in confidence intervals from <2.69 and > 1.55 before the intervention to <3.01 and > 1.23 after 13-week intervention.

The increase of confidence intervals after the interventions rejects our primary hypothesis that self-directed reading intervention positively influence students' readiness for self-directed reading. The results confirm the null hypothesis. Self-directed reading does not influence students' readiness for self-directed reading. Surprisingly, students result in the post-test indicate a decrease in students' reading avidity. There are two explanations for the results. First, students exaggerated their self-concept about reading avidity before the interventions. Second, 13-week interventions increased students' awareness about their readiness for self-directed reading resulting in a recognition of their

limited reading literacy and autonomous learning skills.

7.2 Analysis of management of self-directed reading

To confirm results for reading avidity, a second two-way ANOVA test was conducted on the second factor of the instrument (management of self-directed reading). The second-factor pre-test shows similar results to reading avidity. On a 5-point Likert scale (1= totally agree and 5= totally disagree) the experimental group scored a mean of 2.21 (SD= 1.45) and the control group scored a mean of 1.82 (SD= 1.02).

Table 5: Comparison Of Central Tendency Reading Management Before The Interventions

Items about reading management	Experimental group			Control group		
I read to become better at a skill that I am interested in, e.g., learn a language.	Mean 2.04	SD 1.4	Median 2	Mean 1.4	SD 0.61	Median 1
I understand lessons by reading more.	2.4	1.6	3	2.3	1.43	2
I read to get ideas from different perspectives about a topic	2.2	1.4	2	1.6	0.93	1
I can independently find interesting reading materials.	2.2	1.4	2	2	1.14	2
Adjusted mean	2.21			1.82		

Table 6: Comparison Of Central Tendency Of Management Of Reading After The Interventions

Items about reading management	Experimental group			Control group		
I read to become better at a skill that I am interested in, e.g., learn a language.	Mean 2.27	SD 1.36	Median 2	Mean 2.08	SD 1.16	Median 2
I understand lessons by reading more.	2.33	1.45	2	2.38	1.18	3
I read to get ideas from different perspectives about a topic	2.33	1.28	2	1.91	1.23	1
I can independently find interesting reading materials.	3	1.41	3	2.64	1.14	3
Adjusted mean	2.48; - 0.27			2.25; - 0.8		

The results between the two interventions for the second factor show a significant difference. The mean for reading management scored 2.48 for experimental group with - .27 regression and 2.25 for control group with -.8 regression . Therefore, both factors (reading avidity and management of reading) were negatively scored after 13-week interventions. The results confirmed that students' readiness for self-directed reading is not influenced by a self-directed learning intervention.

8. Discussion

The study investigated readiness for self-directed reading of students at the final years of high school (pre-university) in Morocco. It examines how students' readiness is influenced by two independent variables: self-directed and teacher-directed reading interventions. The findings reveal that the 13-week interventions decreased students' self-concept about their readiness for self-directed reading.

Two factors were measured before and after the survey instrument. The first factor is avidity for reading (item 1,2 3 and 4) and the second factor is management of reading (item 5,6 and 7). The results show a regression in both factors. Since there are two independent samples (teacher-directed readers versus self-directed readers) the study conducted test for difference of two means before and after the interventions.

Table 7: Two Means Test For Reading Intervention

Items	Self-directed readers n= 45		Teacher-directed readers n= 34	
	Pre-test	**Post-test**	**Pre-test**	**Post- test**
Reading is an important skill.	2.11	1.24	1.66	1.82
I like reading.	1.97	2.27	1.66	2.14

Items	Self-directed readers n= 45		Teacher-directed readers n= 34	
	Pre-test	**Post-test**	**Pre-test**	**Post- test**
Most of my readings are for pleasure not for school.	2.31	2.27	2.45	2.55
I read to become better at a skill that I am interested in,e.g,: learn a language.	2.04	2.27	1.42	2.08
I understand lessons by reading more.	2.4	2.33	2.36	2.38
I read to get ideas from different perspectives about a topic	2.24	2.33	1.63	1.91
I can independently find interesting reading materials.	2.2	3.00	2.00	2.64

The results show a decrease in the mean of both interventions after 13-week experiment. Students' awareness about the importance of reading literacy increased in the experimental group from 2.11 to 1.24 (1= totally agree) while it slightly decreased in the control group. However, avidity for reading in both groups skewed towards the middle of the instrument after the experiment (2.27 for experimental group and 2.14 for control group). The difference in means of management of reading (item 7) indicate that students exaggerated their readiness for self-directed reading in both groups. The intervention shows that experimental and control group recognize the difficulty of independent management of reading.

Self-directed learning with reading did not increase students' readiness. Instead, it negatively influences their answers in post-test. There are two findings related to the result. First, students are not aware of their self-direction abilities. They perceive themselves as independent learners. Maybe this perception is related to age. Second, students in final years of high school consider themselves as partners in the learning process where agency is shared between the teacher and students. The intervention presented solid opportunity for students to assess their self-direction.

Teacher-directed learning with reading did not have a great influence on students' readiness. Most students in the control group showed very limited self-direction after the experiment. There are two explanations for students' readiness decrease. The control group with teacher-directed learners (n=34) completed post-reading tasks for other external motivations rather than readiness for self-direction. For example, students did some assignments in the reading contract for improving their grades. Another explanation for students decreased scores in the mean is teacher's agency. The grading system responsibility is now controlled by students instead of the regular formative or summative assessment. The change in assessment system may have caused students' demotivation towards reading activity.

However, teacher-directed learners in the control group showed more perseverance towards task completion. The majority of control group (n= 34) performed post reading tasks. The response rate for the post-test was 100 %. Students in control group demonstrated high ability in monitoring reading contract tasks and maintaining interaction with the reading materials. Reading contract introduces goal-oriented learning and reinforces students' willingness and ability to apply different learning strategies (speaking, writing, drawing, acting, etc.).

For students in final years of high school (pre-university), teacher-directed learning seems to draw more attention. While teacher's agentive role is absent in the self-directed learning, the role is mediated in the teacher-directed learning environment. The study has shown that the influence of self-directed learning on students' readiness is limited. In the contrary, students in control group have shown significant ability to interact with learning goals in teacher-directed environment. The study hypothesized that pre-university learners' readiness for self-directed learning is influenced by a self-directed learning environment. But the results rejected the hypothesis and failed to confirm such influence.

9. Conclusion

The findings of this study have implications for researchers and teachers studying self-directed learning with reading for young learners. The study introduced reading in two different environments

using students' mobile phone. The first intervention is a fieldwork where students read independently without school related motivations (grades, post-reading tasks, teachers' appraisal…). Teachers provided multiple incentives for experimental group such as: watching movies in class, eating snacks while reading and challenging a reading tree. Students individually select a reading material at the end of every English class. The second intervention was a lab experiment where students must meet the requirements of a reading contract. Teachers controlled and assigned reading materials for students and insist on post-reading tasks.

Both interventions lasted for thirteen weeks (three times a week). The results of two means difference test show an increase in students reading avidity. Students believe that reading is an important skill. However, students' self-concept about their readiness for becoming independent readers is rejected. The analysis revealed that students recognize their limited autonomous learning skills.

The paper joins previous studies in confirming that "There is no scientific evidence showing that providing children with rewards increases reading development" (S. D. Krashen, 2011, p. 8). Students in the experimental group were given multiple extrinsic rewards but their post-test results were similar in regression to the unrewarded control group.

Therefore, self-directed learning for young learners as imposed by the national policy of education in Morocco during Covid 19 may not be relevant beyond adult education realm. However, when self-directed learning is combined with a learning contract for young learners, the results are promising. Pre-university students confirm their need for teacher-directed education.

Quantitative analyses of data indicated some relationships between teacher-directed and self-directed learning in terms of increasing students reading avidity and decreasing students' self-concept about their readiness for self-directed reading. Nevertheless, these relationships could not be generalized beyond the specific learners and contexts involved in the present study. Additional research is also needed to combine other extraneous variables with reading such as socio-economic factors, the influence of teachers' instructional design, the difference between digital and print reading.

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