Supporting Learners Self-Management for Self-Directed Language Learning: A Study within Duolingo

Presented by Zixi Li & Curtis J. Bonk, Instructional Systems Technology Dept., Indiana University

Background
- Globalization
  Foreign language learning is a worldwide phenomenon.
- Mobile Learning
  Language learning software is commonly used.
- COVID-19 Impact
  Staying at home leads to a quick expansion of Duolingo.

Overview of the Study
This study examines how do learners self-manage their learning goals, time, resources, and support when they are learning a language using MALL technologies out of the classroom?
- A mixed-method approach
- 84 survey respondents
- 10 semi-structured interviews
Self-directed learning (SDL)

- SDL refers to a type of learning where individuals are in charge of the planning, implementation, and assessment of one’s own learning process (Hiemstra, 1994; Loyens et al., 2008).
- SDL is a critical ability in the learning environments of this new learning age, which are often informal, online, and open (Bonk, 2009, 2020).
- Garrison (1997) refined SDL through three dimensions, including self-management, self-monitoring, and motivation.

Garrison’s (1997) Framework of SDL

- **Self-management** is the task control ability that is associated with external activities, such as time, resources, and goal management.
- **Self-monitoring** is the cognitive and metacognitive process of establishing learning strategies and learning paces.
- **Motivation** can initiate and sustain learning efforts towards cognitive goals (Garrison, 1997).

Goal Management

- Goals specify the amount of effort required to succeed and the self-satisfaction anticipated (Schunk, 1998).
- Goal setting leads to task assessment and considerations of the appropriate learning strategies from a metacognitive perspective (Ridley et al., 1992).
- In MALL, timescales influence the dynamic nature of the learning ecology and so influence the learning goals.
- Setting realistic and achievable goals is more likely to lead to a successful SDL.

Time Management

- MALL provides high flexibility of time management so that learners may coordinate their learning with personal activities at their convenience (Huang et al., 2014).
- User-friendly learning management system that explicitly indicates one’s learning progress and is embedded with time control features can motivate and enhance learning (Al-Adwan et al., 2018).
- Time management can be challenged when the free learning time conflicts with other personal desires (Loewen et al., 2019).
- Learners cannot consistently learn in a MALL environment without a certain level of extrinsic incentives (Botero et al., 2019).
Resource Management

- Both human and material resources are important components of SDL (Knowles, 1975).
- Others in a learning community can serve as important resources that support learning, including experts and more knowledgeable peers (Bonk et al., 2004; Wenger, 1998).
- The zone of proximal development (ZPD) defines the learner’s ability to do something with and without external help (Vygotsky, 1978).
- Authentic resources are a crucial motivation factor in language learning (Cross 1984; Gilmore, 2007).

Duolingo

- Duolingo is a free language-learning platform, which has become one of the most popular tools for language learning (Jašková, 2014).
- It includes a language-learning website and a mobile application, offering free lessons among 40 languages for more than 500 million learners (Blanco, 2021).
- Duolingo was designed to be used in the context of a non-classroom learning environment with the scope of “beyond the walls of the classroom” (Brebera, 2017).

Duolingo Platform

Current Research on Duolingo

- **Effectiveness**
  (Jašková, 2014; Krashen, 2014; Vesselinov & Gregg, 2012)

- **Gamification**
  (Huynh et al., 2016; Huynh & Iida, 2017; Munday, 2017; Shortt et al., 2021)

- **Microlearning**
  (Brebera, 2017)

- **Features**
  (Nushi & Eqbali, 2017; Savvani, 2018)

Method

- An explanatory sequential mixed methods design (Ivankova et al., 2006)
- Quantitative data collection and data analysis followed by qualitative data collection and data analysis
- 84 valid survey responses & 10 interviewees

Overview
The explanatory-sequential approach

- Quantitative data is analyzed by descriptive statistics (i.e., percentages and means) through Qualtrics.
- Qualitative data is analyzed by thematic analysis through NVivo 12.

Participants

Goal Management

- All interviewees (n=10) had goals, which can be classified into long-term outcome goals, short-term performance goals, and procedural goals.
- All three types of goals can be very specific or very vague.
- 8 interviewees have specific outcome goals, 5 of them can predict procedures that take them to the final outcome and set sub-goals.
- Learners who claim that they do not have specific goals are more likely to follow a goal generated by language learning software rather than a goal initiated by themselves.

Findings

Goal Management

- Interviewee #6
  - Outcome goals: “My future goal is to get the C1 CEFR, because I must have it to enter the German university.”
  - Short-term performance goals: “I’m more into like in six months, I must read the complete structure (of Duolingo).”
  - Procedural goals: “And it’s more like I have a goal that I must complete the tree in German. So yeah, I have to make myself disciplined.”

Time Management

- The majority of interviewees (n=8) stated that daily life activities are a constraint to their time management.
- The significant obstacle is due to work demands, which have an impact on learners’ physical and emotional ability to complete their learning goals on a consistent basis.
  
  “Because my schedule can be busy. Sometimes, especially during the exam period in schools, I really have no time. I’m just busy completing my markings.”
  - Interviewee #10
Time Management

- Eight interviewees (n=8) either use technology-assisted time management or a self-developed time management system to overcome time constraints.

If you have the app on your phone and you have the notification open, and you didn’t finish your day, they will send at least three notifications at different times of the day to remind you to do so.”
- Interviewee #5

“Because I was getting notified and I knew, okay, I have to do something now.”
- Interviewee #7

Resource Management

- Authenticity of resources is prioritized in language learning.
- Three primary indicators of authentic resources are engagement of experts, realistic and meaningful learning context, and valid content.

"Talk to somebody who’s a native speaker. And then you figure out whether they understand you. And they may give some feedback like, ‘Hey, Joe, you know, your language is pretty good’ or they stop you every ten sections to say ‘no, actually, this is how you say it.’ Yeah. So that I think is the most valuable measure of how you’re doing in a language.”
- Interviewee #9

Resource Management

- More than half of the interviewees (n=6) highly valued the importance of cultural information and representations in the various learning resources in Duolingo.

“And there’s no culture. I mean, they could be like, here’s a traditional Middle Eastern dish from xxx area. But then they also have sentences with people named Bob and Sam. Why? Just use all Arabic names, like why, why people go somewhere and talk about Sam. Sam, yeah, which is Arabic, but why do I need to talk about Bob?”
- Interviewee #7

Discussion

- Hi!

Significance of Research

- Literature Gap
  - Most existing studies on MALL-based self-directed learning have been conducted in the context of formal school learning (Botero & Questier, 2016; Botero et al., 2019)

Practice

- The COVID-19 pandemic significantly changes how people approach learning languages and various new online or blended options emerge.

Limitations & Future Research

- Instrument Design
  - The survey instrument was not originally designed for this study

- Sample Size
  - 500 million users VS 84 survey participants

- Survey Distribution
  - Users who use Duolingo Event, Forum, and Discord are far more likely to observe the recruitment than those who solely use Duolingo lessons.
THANKS

Do you have any questions?
Zixi Li, lizixi@iu.edu
Curt Bonk, cjbonk@iu.edu

CREDITS: This presentation template was created by Slidesgo, including icons by Flaticon, and infographics & images by Freepik
Please keep this slide for attribution