Millersville University

Benefits of Using Environmental Print to Promote Early Reading Proficiency

A Senior Thesis Submitted to the Department of Early, Middle, and Elementary Education, and University Honors Program

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McKenna Billie

Millersville, PA, 17551

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Abstract

Many students face challenges in reaching age-appropriate reading levels, which often limits their academic progress later. This research focuses on identifying an effective process for students to improve their reading skills. The study introduces the use of Environmental Print as a foundational tool in the early stages of reading development. Environmental Print is the text and symbols in everyday surroundings like street signs, grocery labels, and restaurant logos, that has emerged as a foundational tool for reading development. By using Environmental Print, students will begin to associate letters with sounds, which supports automatic recognition. This approach aimed to provide a structured path toward reading proficiency in both letter sound association and word recognition. Additionally, a content analysis was conducted at each stage of the strategy to evaluate its effectiveness and refine the process, ensuring it meets the diverse needs of students. The findings offer educators a practical strategy to assist students in overcoming early reading difficulties that they may encounter.

Key Words: Reading, Environmental Print, Pre-School, Word Recognition

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Introduction

The need for students to possess effective literacy strategies early on is greater than ever, as a growing number of students struggle to reach age-appropriate reading levels (UNESCO, 2024). These reading difficulties can restrict their academic progress, impacting other subject areas and educational outcomes. As educators and researchers work to identify and implement interventions, "Environmental Print," which is text and symbols in everyday surroundings like street signs, grocery labels, and restaurant logos, has emerged as a foundational tool for reading development. This research explores Environmental Print's potential in helping students improve letter sound association, which is a key component in achieving reading proficiency.

Environmental Print is uniquely positioned as a literacy tool due to its familiarity and accessibility in children's daily lives. By introducing print that children already encounter and recognize outside of books, Environmental Print provides a natural bridge between spoken and written language. Through frequent exposure, children learn to associate specific letters and sounds with recognizable words and symbols, enhancing their print awareness and phonological skills in a way that is relevant and engaging (DESE, 2024).

Research suggests that as children recognize letters in familiar contexts, they build confidence in their reading abilities, which aids retention and creates a positive connection with literacy from an early age (NAEYC, 2024). For students who may struggle with traditional reading instruction, Environmental Print presents a valuable, real-world literacy approach that aligns with their everyday experiences, making it particularly beneficial in diverse learning environments. This study focuses on refining Environmental Print-based strategies to support reading skill development, aiming to address the early reading difficulties many students face.

This research seeks to answer the question: How does the use of Environmental Print promote early reading proficiency?

This study set out to determine whether using Environmental Print in a structured, evidence-based process, provides a way for educators to introduce foundational reading concepts such as letter to sound associations and word recognition in an approachable way. However, the research process encountered a significant challenge. Despite six months of active data collection, the delayed response from the Instructional Research Board (IRB) and subsequent feedback issues made it impossible to use the data gathered within the study's timeline. Despite ongoing communication with both the thesis advisor and the Honors College director, there was no feasible way to integrate the collected data without restarting the entire process. This unforeseen barrier required adapting the study's approach, maintaining the focus on Environmental Print while using observation and teacher narrative to evaluate its effectiveness.

Ultimately, the findings of this study aim to provide educators with a practical, accessible strategy to help students achieve reading proficiency by capitalizing on Environmental Print as a meaningful and engaging literacy resource. By integrating familiar, everyday text into reading instruction, this approach offers a structured yet adaptable path toward literacy success, supporting both early learners and those with ongoing reading challenges.

This study operated under several key assumptions. First, it assumed that children are frequently exposed to Environmental Print in their daily lives and that this exposure contributed to their emerging literacy skills. It also presumed that students would engage with Environmental Print in a meaningful way, making connections between symbols, letters, and sounds. Additionally, the study assumed that educators can successfully implement cost-effective Environmental Print strategies in structured learning environments.

However, there are also limitations to be considered. The effectiveness of Environmental Print as a literacy tool may vary based on factors such as socioeconomic background, prior literacy experiences, and access to diverse print-rich environments. Additionally, while Environmental Print can serve as a valuable supplement to traditional literacy instruction, it is not a standalone solution for reading difficulties. Variability in instructional methods and student engagement levels may also impact the consistency of results.

By acknowledging these assumptions and limitations, this study aimed to provide a balanced perspective on the role of Environmental Print in literacy development while highlighting areas for further research and refinement.

Literature Review

Emergent literacy, the process by which young children develop foundational reading and writing skills, benefits from exposure to Environmental Print. Environmental Print refers to the text children encounter in their daily lives, such as logos, signs, and labels (Neumann et al. 2012). This form of print provides an accessible and engaging entry point into the world of literacy by allowing children to interact with meaningful and familiar text. Through synthesis of research studies, this literature review examines the impact of Environmental Print on the development of alphabetic principles, phonological awareness, print awareness, oral language skills, the alphabetic principle, and word recognition, highlighting it as a valuable tool in early literacy education.

Does Environmental Print Identification Lead Children into Word Reading?

Environmental Print plays a crucial role in teaching the alphabetic principle: the understanding that letters represent sounds and can be used to construct words. Neumann et al. (2012) emphasize that Environmental Print serves as an effective scaffold for introducing young learners to the relationship between symbols and sounds. By engaging with familiar texts in their surroundings, children can link letters to sounds in meaningful contexts, laying the groundwork for more formal literacy instruction. Similarly, Masonheimer et al. (1984) argue that repetitive exposure to Environmental Print helps children develop this connection naturally, as they begin to perceive letters as symbols with specific meanings.

One of the significant benefits of Environmental Print is the ability to enhance learning engagement and cognitive development. Neumann et al. (2012) highlight how children show increased enthusiasm when interacting with real-world text, as it connects their everyday

experiences with the process of learning. This engagement facilitates memory retention and understanding, reinforcing the alphabetic principle in a tangible way. Masonheimer et al. (1984) add that Environmental Print encourages children to recognize patterns and consistent meanings in written symbols, which enhances their cognitive ability to distinguish and interpret print.

Theoretical Framework: Ehri's Pre-Alphabetic Phase and Environmental Print

Linnea Ehri's model of word learning describes how children develop reading skills in stages (Lane, 2022). The first stage is called the pre-alphabetic phase, where children recognize words not by reading the letters but by remembering the pictures or symbols around them. For example, a child might know the word "McDonald's" because of the golden arches logo, even if they can't read the letters (Ehri, 1995).

This is exactly how Environmental Print works. Children see signs, logos, and labels they recognize in their daily lives, like cereal boxes, toys, or store signs. These familiar images help them start to understand that symbols and words can have meaning. Even if they can't read yet, they are learning that these symbols represent real words.

By using Environmental Print in early literacy teaching, educators can help children in this pre-alphabetic stage make a connection between what they see and what it means (Lane,2022). This prepares them to move on to the next stages of learning to read, where they will start to notice the letters and sounds that make up words (Lane, 2022).

Enhancing Phonological Awareness, Print Awareness, and Oral Language Skills in Preschool Children

Phonological awareness, the ability to identify and manipulate sounds in spoken language, is another foundational literacy skill supported by Environmental Print. Pullen and

Justice (2003) explore how familiar items like store logos and signs help children connect sounds with written symbols. This exposure not only builds sound-to-letter associations but also reinforces these patterns in a natural and engaging way. Print awareness, the understanding of the forms and functions of written language, is similarly supported. By encountering Environmental Print in meaningful contexts, children learn to recognize letters and words, developing a deeper awareness of how written language operates (Pullen & Justice, 2003).

In addition to cognitive benefits, Environmental Print promotes social and oral language development. Neumann et al. (2012) and Pullen and Justice (2003) both underscore how interactions with Environmental Print often prompt discussions and questions, encouraging children to share their observations with peers and adults. This social interaction supports vocabulary growth and conversational skills, essential components of oral language development (Genishi, 1998). By integrating Environmental Print into classroom activities, teachers can create opportunities for students to expand their vocabulary and understanding of language use in social contexts.

The Role of Environmental Print in Emergent Literacy

The practical implications of incorporating Environmental Print into early literacy education are well-documented. Masonheimer et al. (1984) suggest that educators use labeled items, grocery store flyers, and familiar logos to bridge the gap between academic learning and real-world experiences. Similarly, Pullen and Justice (2003) advocate integrating Environmental Print into classroom instruction to provide immediate and meaningful opportunities for children to practice recognizing and understanding written language. These approaches align with the broader consensus that Environmental Print serves as a natural and effective supplement to traditional reading instruction.

The collective findings of Neumann et al. (2012), Masonheimer et al. (1984), and Pullen and Justice (2003) illustrate that Environmental Print is a powerful tool in early literacy development. By providing children with familiar and meaningful text, they understand the alphabetic principle, develop phonological and print awareness, and enhance oral language skills. Furthermore, Environmental Print promotes engagement and cognitive development, making it an indispensable resource in emergent literacy. As educators seek to create authentic learning environments, incorporating Environmental Print offers a practical and impactful way to bridge the gap between everyday experiences and foundational literacy skills.

Methodology and Findings

Research Design

This research study was designed to take place over a six-month period, beginning on June 17, 2024, and concluding on December 16, 2024. The study focused on exploring the impact of Environmental Print on teaching alphabetic principles, particularly improving the accuracy of lowercase and uppercase letter recognition in young learners. The intervention involved the use of carefully designed instructional materials, including packets with lowercase letters paired with corresponding Environmental Print images on one side and another packet with the same Environmental Print images paired with uppercase letters (see Appendix A). These materials were implemented daily as part of a structured learning routine to promote consistency and maximize engagement.

Participants and Setting

The participants in this study included six children, aged five to six years old, who entered the pre-kindergarten classroom with minimal accuracy in recognizing lowercase letters. The classroom setting was a structured, early education environment that supported daily learning activities. The group was intentionally selected to represent students who would benefit from targeted interventions to improve their foundational literacy skills. The materials used in the study were age-appropriate, visually engaging, and designed to connect letters with real-world images, creating a meaningful and memorable learning experience. The incorporation of sound identification in addition to letter recognition further supported a comprehensive approach to early literacy instruction.

Findings

While all six students showed noticeable improvements in recognizing lowercase letters, and many also recognized most uppercase letters by the end of the study, it is important to acknowledge that this progress may not be solely attributed to the Environmental Print packets. In the absence of a control group, the researcher cannot rule out the influence of other alphabet instruction the students received during the study period. However, the specific design of the Environmental Print packets appeared to play a crucial role in supporting literacy development.

The success of this approach can be better understood through Linnea Ehri's (1995) concept of the pre-alphabetic phase of word learning. In this phase, children use visual and contextual cues rather than letter-sound knowledge to recognize words. The Environmental Print packets were effective because they leveraged this stage of learning by presenting students with familiar images and symbols alongside letters. This provided a natural and intuitive way for students to begin associating sounds with these recognize symbols, creating a bridge between the visual symbols they saw, and the letter sounds they were learning.

The visual, tactile, and interactive elements of the materials seemed to enhance engagement, building a stronger connection between the letters and sounds they were learning. As students traced the letters, matched sounds to objects, and identified letters in familiar contexts, they were not just memorizing symbols, they were connecting these symbols to meaningful experiences. This aligns with Ehri's (1995) theory, where young learners begin to form visual connections between print and spoken language before fully understand letter-sound relationships

Throughout the intervention period, teachers observed increased enthusiasm and sustained attention among the students during the sessions involving the Environmental Print packets. Anecdotal evidence suggested that the use of familiar symbols and objects depicted in

the materials sparked their natural curiosity and effectively reinforced their interest in the learning process. As the students became more familiar with the content and format of the Environmental Print materials through daily use, they demonstrated a noticeable improvement in their understanding of sound-to-letter associations.

This progress was systematically monitored through ongoing teacher observations of student participation and informal assessments of letter recognition and sound identification conducted throughout the study. Notably, students began to spontaneously identify letters not only within the structured learning materials but also in their everyday environments outside of the direct instruction, such as on classroom labels, familiar food packaging, or common objects they encountered. This emerging ability to recognize and connect letters to their surroundings suggests an increased overall awareness of print in the world around them, a key component of early literacy development. While these findings are promising and indicate the potential value of Environmental Print in early literacy instruction, it remains important to acknowledge that other forms of alphabet instruction delivered within the pre-kindergarten curriculum also contributed to the students' growing recognition of letters and their associated sounds.

The interactive activities used in the study, such as tracing letters and engaging in actions or finding corresponding sounds, played a key role in students' overall engagement and retention of the information. These activities were integrated into each session, with students first tracing letters to reinforce their shapes, followed by identifying the sound through various sensory experiences like matching sounds to familiar objects. In addition, students were encouraged to act out the sounds or identify letters in their environment, providing real-world context. One particularly notable finding was that students who initially struggled with letter recognition and sound identification showed significant improvement by the end of the study through ongoing

written observations. This suggests that hands-on, contextual learning, where students actively engage with the material in various formats, can have a positive impact on literacy development.

Teacher Reflection and Observations

The creation of the instructional packets was challenging. Initially, the process involved symbols and images that were both visually engaging and connected to the students' everyday lives. Real-world symbols such as logos, street signs, and objects were included to ensure the letters and sounds had meaningful contexts. As I began to design the packets, I realized how crucial it was to strike a balance between the visual appeal of the images and the need for the students to recognize the connection between the letters and the sounds they represent. Before implementing the intervention, I saw that the students were drawn to the images that were paired with the letters and their recognition of familiar symbols seemed to facilitate quicker associations between the letters and their corresponding sounds.

To further engage the students, I designed the packets to allow for interaction. I incorporated a tracing method where students could trace over the letters with fingers or use erasable markers to write the letters themselves. This hands-on experience made the learning process more tangible and memorable. The sensory activity of tracing the letters while saying their corresponding sounds appeared to deepen their understanding and retention of letter to sound associations. After students traced over the letters multiple times with prompting, they then used their fingers to trace the letter's name or sound in a sensory bucket (see Appendix B). This additional multi-sensory approach further reinforced their engagement and understanding, providing another tactile and visual method for connecting letter shapes with their corresponding sounds.

One of the main challenges I faced was maintaining the students' interest throughout the study. It became evident that while the images and letters were engaging, there was a need to diversify the activities to keep the children motivated. To address this, I made the activities more interactive. I encouraged the students to act out or find objects related to the Environmental Print and when they returned them, they had to say the sound or letter name. For example, after reviewing the symbol of a ball, I prompted the students to look around the classroom for a similar item or to act out showing themselves using a ball while saying the letter name and sound to help connect the letter and sounds to the real-world experiences. This interactive approach proved to be effective in maintaining the students' enthusiasm.

Over time, I observed significant improvements in the students' letter recognition, especially with lower case letters, which had initially posed a significant challenge for them. The process of engaging with the materials daily seemed to support consistent progress, and by the end of the study, the students' letter recognition was noticeably stronger which was seen from the ongoing written observations.

Implications for Future Teaching

The study suggests that Environmental Print can be an effective and engaging tool for improving early literacy skills, particularly in letter recognition and letter-sound associations. The results highlight the importance of incorporating real-world symbols into literacy instruction, as these familiar contexts motivate students and support deeper learning. Future educators can integrate similar strategies into their classrooms to help all students, especially those struggling with traditional reading instruction.

As a teacher, I learned the value of using materials that are relevant in students' everyday experiences. It is relevant to this study to note that after witnessing the results of the intervention, other teachers at the placement requested copies of the packets. They have since implemented these materials in their literacy teaching, incorporating them into their "letter of the week" activities and literacy book sections. In some classrooms, particularly those serving students from age three and up, the packets are available for students to flip through independently and to complete the tracing activities with their fingers or dry erase markers. This enthusiastic adoption by other educators underscores the practical impact and versatility of these Environmental Print resources as a tool for literacy instruction. This emphasized the potential impact of this method on broader student populations.

The use of Environmental Print can be adapted to various age groups and literacy levels, giving it versatility in a wide range of educational settings. It is also a practical and cost-effective approach to supplementing traditional reading instruction, making it accessible even in resource limited classrooms. The materials in this packet were created using Canva, an online platform that allows users to design a variety of content, such as posts, documents, and presentations, without the need for expensive tools or promotional offers.

Limitations and Assumptions

While the study offers valuable insights, it is limited by its small sample size and lack of quantitative data. Variations in prior literacy experiences, students' concurrent literacy instruction, and student engagement may also have influenced the results. Additionally, the study's short duration does not capture the long-term effects or permanency of Environmental Print exposure on literacy development. The study assumes that exposure to Environmental Print outside the classroom contributes positively to students' learning, and that consistent exposure to

the instructional materials helps reinforce letter recognition and letter-sound associations. It also assumes that students have at least minimal exposure to Environmental Print in their daily lives, which may not be the case for all learners, particularly those from print-scarce environments.

The findings also suggest that Environmental Print is not a one size fits all solution, and other factors such as the students' previous exposure to literacy concepts, their home environment, and their individual learning styles may influence how effective the intervention is. There is also an underlying assumption that teachers have the resources and time to effectively integrate Environmental Print into their instruction, which may not always be feasible in under-resourced classrooms. Future research should aim to include a larger sample size, quantitative data, and diverse student populations to explore the broader applicability of Environmental Print-based interventions. Longitudinal studies would be beneficial to determine if early gains in letter recognition and phonological awareness are sustained over time.

Recommendations

Practical Applications for Educators

Based on the study's findings, it seems that integrating Environmental Print into early literacy instruction could be beneficial. This approach has shown positive effects in promoting letter recognition and letter-sound associations, as well as an improvement print and phonological awareness. Educators should continue to create or commit to utilizing instructional materials that include real-world symbols, ensuring that these materials are age-appropriate, visually stimulating, and contextually meaningful. Incorporating culturally relevant Environmental Print that reflects students' diverse backgrounds can further enhance engagement and build a more inclusive learning environment. Imagine a classroom where there is bilingual signage or food labels from diverse cultures that reflect the communities' students come from. This not only helps to make reading more relevant and engaging but also build a deeper connection to the content, creating a more inclusive and affirming learning environment. This strategy makes learning intuitive for children by relating abstract literacy concepts to the world around them. By incorporating Environmental Print regularly into classroom routines, teachers can create an engaging, accessible, and effective learning environment that encourages students to develop literacy skills. Moreover, educators should consider providing take-home Environmental Print activities to strengthen school-to-home connections and encourage family involvement in literacy development.

Strategies for Integrating Environmental Print into the Classroom

To effectively integrate Environmental Print into the classroom, educators can develop a variety of learning activities that utilize everyday objects and symbols familiar to students. For

example, teachers can label classroom items with both words and corresponding images. This practice helps reinforce letter recognition and sound to letter associations, making the learning process more meaningful by connecting abstract concepts to the physical world around students. By seeing and interacting with print that is relevant to their daily experiences, students can better internalize these foundational literacy skills. Teachers could also rotate the Environmental Print displays periodically to maintain student interest and expose them to a broader vocabulary.

Additionally, incorporating interactive activities such as scavenger hunts for Environmental Print can actively engage students while reinforcing their understanding of letters and sounds. During these hunts, students could search for specific letters and words in their classroom or the school environment, building both letter recognition and the ability to identify text in real-world contexts. They also were given a scavenger hunt handout that they would use that had the picture of the object in the classroom and the corresponding word underneath when they went to retrieve the objects and bring them back to the teacher (see Appendix C). Such activities made the learning experience dynamic and fun, encouraging students to engage in literacy tasks beyond traditional classroom settings. Teachers can further extend this strategy by organizing community walks, allowing students to identify Environmental Print in local settings, thereby bridging classroom learning with the outside world.

Another effective approach involves creating interactive activities where students match letters to related real-world objects. For instance, students could identify the letter “B” on the box of cereal, then match it to the word and sound it represents. Teachers can further enhance these activities by encouraging students to act out the sounds associated with the letters they encounter or identify the letters on corresponding items. These hands-on activities promote deeper engagement by making learning more tactile and sensory driven. Incorporating digital

tools, such as interactive apps that use Environmental Print, can also enhance student engagement and provide additional practice opportunities at home or in the classroom.

By continuously exposing students to familiar text in a variety of contexts, educators help students build a stronger connection to print, encouraging them to see literacy as a part of their everyday lives. This consistent exposure not only strengthens letter and sound recognition but also cultivates a greater understanding of how print functions in the world around them. This approach supports the development of print-rich environments that inspire curiosity and build independent exploration of literacy concepts.

Conclusion

Summary of Findings

The study found that Environmental Print is a valuable tool for improving early literacy skills, particularly in letter recognition and sound to letter associations. All six participating students demonstrated noticeable improvements in recognizing lowercase letters, with many also showing progress in uppercase letter recognition. The study highlighted that familiar, real-world symbols helped students make meaningful connections between letters and sounds, reinforcing their understanding in an engaging and accessible way. The use of multi-sensory activities, such as tracing letters and interacting with familiar objects, contributed to greater engagement and retention of literacy concepts. These activities allowed students to use multiple senses simultaneously, strengthening neutral connections related to literacy learning.

One of the key findings was the students' increased enthusiasm and attention during literacy activities. The presence of recognizable symbols and print encouraged active participation and heightened their curiosity about letters and sounds in their everyday environment. Over time, students began identifying letters beyond the instructional materials, such as in classroom labels, food, signs, and objects, indicating an increased awareness of Environmental Print in real-world settings. This growing awareness suggests that Environmental Print builds emergent literacy behaviors, prompting children to view their surroundings as learning opportunities. The hands-on, interactive nature of the intervention played a crucial role in building a positive learning experience and improving literacy outcomes.

Impact on Early Literacy Instruction

The study underscored the importance of integrating real-world symbols into early literacy instruction. Teachers observed that by making literacy instruction more relevant to students lived experiences, they could enhance motivation and engagement. Additionally, the intervention provided an adaptable and cost-effective way to supplement traditional reading instruction, benefiting students who struggle with conventional approaches. Educators also noted that students with varied language backgrounds found Environmental Print particularly helpful, as it provided visual support alongside verbal instruction. Given the positive outcomes, the instructional materials were shared with other educators, emphasizing the potential broader implementation in diverse early learning environments.

While the study demonstrated promising results, it also identified limitations, including the small sample size and the lack of quantitative data to measure long-term literacy improvements. Future research should focus on expanding the study to include a more diverse range of students, as well as examine the long-term effects of Environmental Print exposure on reading proficiency. Furthermore, it would be beneficial to explore how Environmental Print can complement digital literacy tools, creating a blended learning approach that reflects modern educational contexts. Despite these limitations, the findings suggest that incorporating Environmental Print into literacy instruction can have a meaningful impact on students' early reading skills, making it a valuable strategy for educators to consider in their teaching practices.

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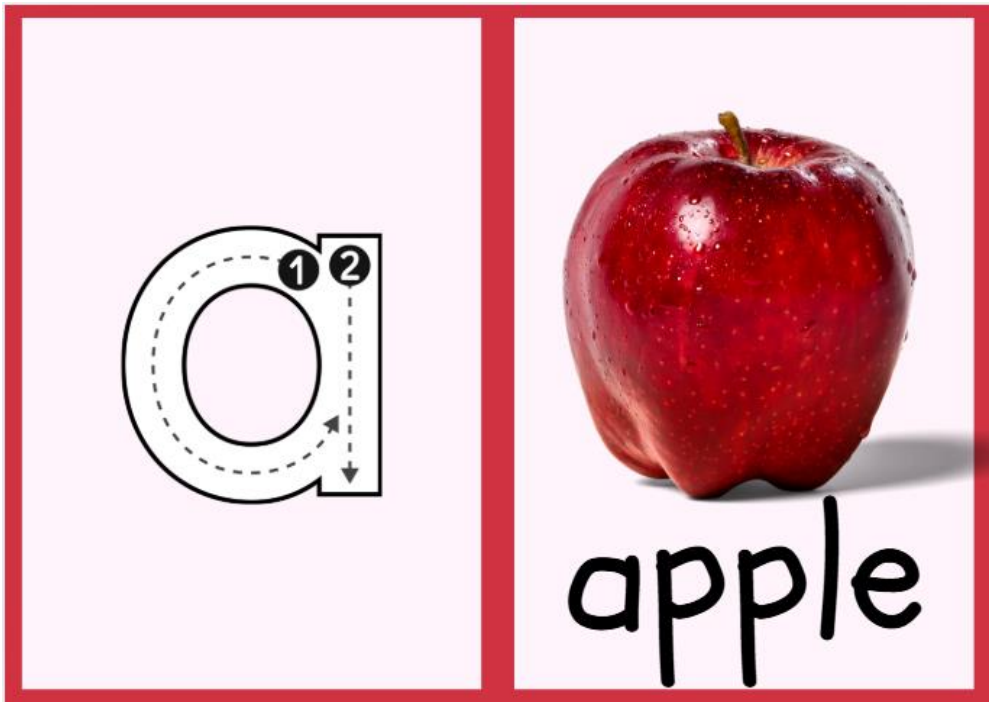
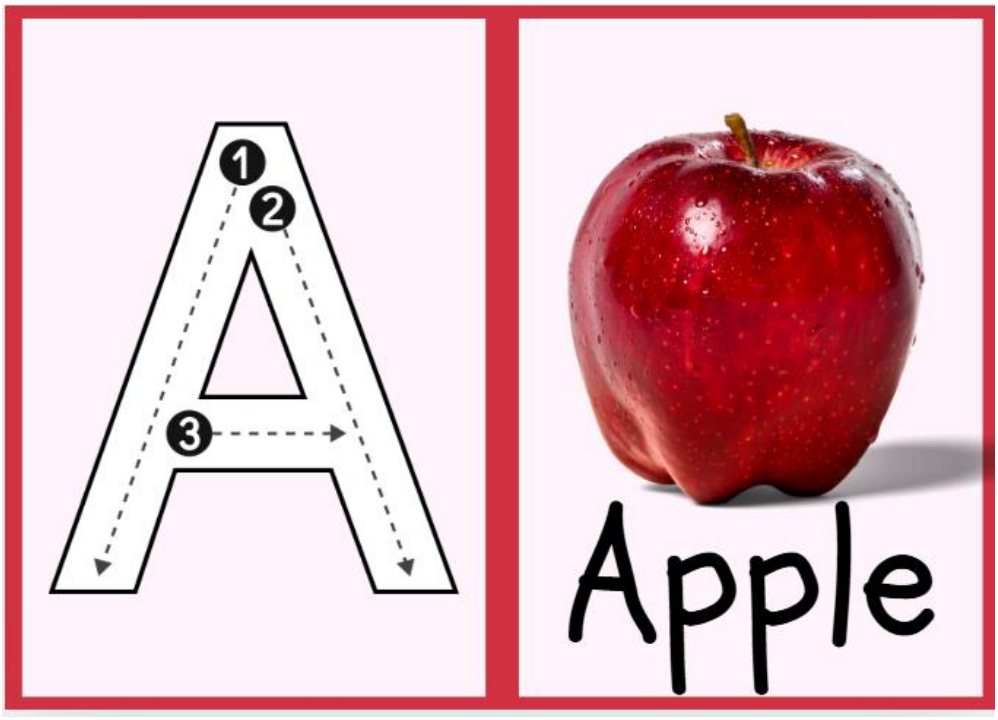
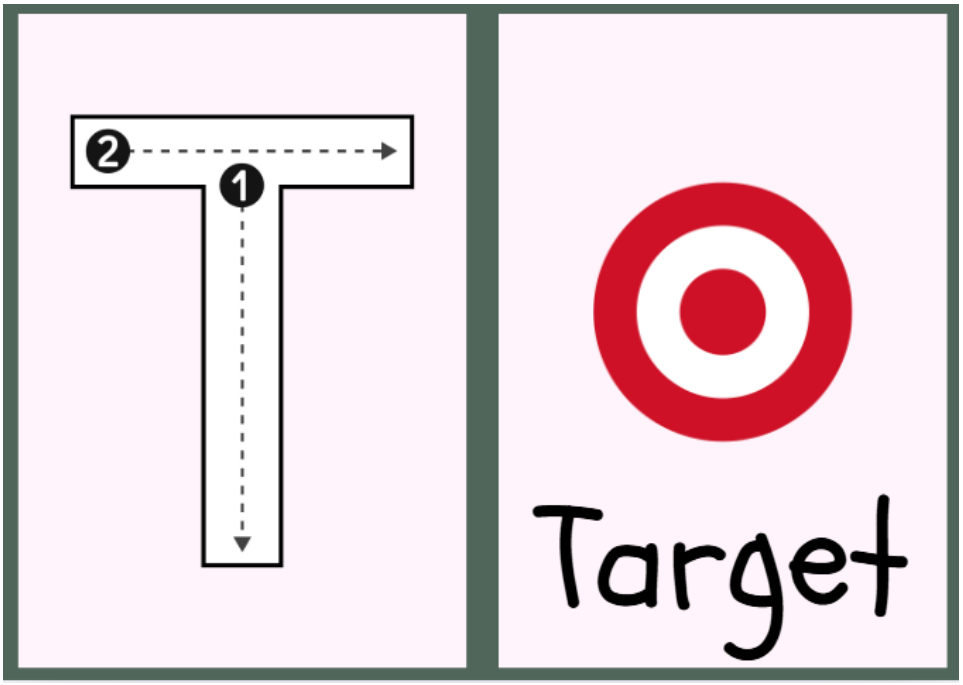
Appendix A






1
2
target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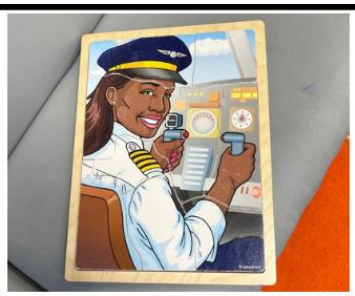
Target

Appendix B

Appendix C

Money



Puzzle

Car

Tiger

Baby

Duck