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Reflections across communities: Fall 2025

Priscila Alvarado, Keri-Anne Croce, Kelly Murphy, Yang Wang

We would like to welcome you to the inaugural issue of *Journal of International Interdisciplinary Literacy* (JIIL). This journal intends to draw from a variety of disciplines, modalities, and languages. The journal draws upon Croce's (2023) definition of a text which states that a text is any platform that engages a participant. The multiple modalities presented in this journal all serve as types of texts. Disciplinary literacy explores how reading, writing, and speaking occur in different unique fields (Ortlieb et al., 2024). Over time, this journal hopes to give voice to many individuals globally as they share how they read, write, and speak. Learning about what literacy looks like in different fields and areas of the world may inspire readers to expand how they themselves communicate.

This first issue of the Journal of International Interdisciplinary Literacy includes four publications. The video text titled, *The elegant Chinese calligraphy: A blend of language, history, and art* was created by Shiyang Li 李师杨 (CoCo) & Yang Wang 王杨 (Li

& Wang, 2025). This video text describes CoCo's thoughtful process of engaging with Chinese calligraphy. She reflects on learning calligraphy out of love for the Chinese language and culture.

The second and third publications are connected. The first part is a video text titled *Carrying a 560 pound engine 20 feet: A college student's journey through auto mechanic literacy and TikTok fame*. In this text, Riley Allen, a college student, describes his journey as he develops as an auto mechanic (Allen, 2025). Riley shares his experiences working on cars, his need to be resourceful when it came to replacing an engine, and how he carried a 560lb engine across a finish line at a salvage yard in order to secure the engine for \$69.99. In response, Keri-Anne Croce provides a written commentary titled, *The journey of a developing auto mechanic and TikTok author helps to uncover features of disciplinary literacy*. Croce (2025a) draws out the different types of texts that Riley encounters on his journey as an auto mechanic. Taken together, the work of Allen and Croce help to further define discipline specific literacy practices, or disciplinary literacy.

Within the fourth publication, titled *Shaping societies: Disciplinary literacy in forensic science*, Croce (2025b) examines the discipline of forensic science by discussing the language and patterns that emerge within this field. As she describes a qualitative analysis of the language patterns of Court of Appeals or Court of Special Appeals documents filed within the state of Maryland between 2018 and 2025, she is able to expand what is known about what it means to engage with forensic science texts.

The publications in this first issue reflect a wide range of perspectives. One publication is from the perspective of a sixth-grade student, CoCo, who shares her artful Chinese calligraphy and describes what Chinese calligraphy means to her. Another publication is from the perspective of Riley, an emerging auto-mechanic and college student, who shares his journey and resourceful problematizing as he negotiates auto mechanics. A third publication comes from a university professor who analyzes specific patterns and purposes of language and texts within the relatively unexamined literacy field of forensic science. Across all articles, there is a theme of language negotiation, problem solving, and decision making. Both video texts illustrate the authors' experiences as they step into their respective fields. The fourth publication is a qualitative analysis from Croce focusing on how language achieves different purposes within an established field. All these publications reinforce what is meant by the term disciplinary literacy.

Together the publications in this first issue of *Journal of International Interdisciplinary Literacy* seek to expand what it means to read, write, and speak. The JILL highlights all languages and provides an opportunity for authors to publish texts in their desired language or engage in translanguaging. We encourage you to add your voice to the growing list of authors who are sharing their literacy experiences in the JILL.

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International Perspectives

The elegant Chinese calligraphy: A blend of language, history, and art

Shiyang Li 李师杨, Yang Wang 王杨

This [video](#) introduces Chinese calligraphy as both a unique form of writing and a highly respected art. The author reflects on learning calligraphy out of love for the Chinese language and culture. She finds the process calming and beneficial for improving patience, focus, and writing skills. The featured calligraphy piece reproduces a verse from a poem by the Tang Dynasty poet Li Bai (李白), conveying the message that perseverance leads to success. The author details the effort and dedication involved and hopes others will appreciate calligraphy and Chinese culture through this art.

Experiences Across Disciplines and Fields

Carrying a 560 pound engine 20 feet: A college student's journey through auto mechanic literacy and TikTok fame

Riley Allen

In this [video](#), college student Riley Allen describes his journey through the discipline of auto mechanics. The reader can observe how Riley navigates language in a discipline that is new to him. In an attempt to repair a car, Riley participated in part of a local salvage yard promotion that advertised the price of \$69.99 for anything that one individual could carry out of the yard. Riley recounts how he carried a 560lb engine out of the yard and then proceeded to repair his truck. His descriptions illuminate the disciplinary literacy of auto mechanics.

The journey of a developing auto mechanic and TikTok author helps to uncover features of disciplinary literacy

Keri-Anne Croce

The thought-provoking tale of a college student developing as an auto mechanic may inspire individuals to consider the unique literacy practices inherent within specific disciplines. Riley Allen tells two stories (Allen, 2025). First, the audience is presented with a description of Riley's early introduction into auto mechanics as he attempts to repair his mother's car. Riley continues to describe his journey as a developing auto mechanic by discussing how he carried a 560 pound engine 20 feet at a salvage yard in order to try to repair his grandfather's car. TikTok fame finds Riley as a result of his actions at the salvage yard. While interweaving both stories, Riley uses his video text to describe how he interacts with individuals familiar and unfamiliar with the languages of auto mechanics, illustrating how language negotiations informed his emerging identity as an auto mechanic. He demonstrates the role that mentors play in helping individuals navigate the languages and texts that are inherent to the world of auto mechanics. Riley also deconstructs the types of oral and written texts that an auto mechanic might encounter,

as well as the purposes for these texts. Riley's video text proves that literacy surrounding mathematics and science is focused on achieving specific goals. The following commentary draws out the disciplinary literacy (or discipline specific communication) that arose as Riley pursued his desired outcomes. By analyzing how Riley develops the literacy practices of auto mechanics, readers may be inspired to achieve literacy in new ways and recognize the literacies that already exist in their own lives.

Language Use Outside, Inside, and Between Auto Mechanic Communities

Within his video text, Riley presents many examples of the evolution of his use of language as he develops an identity as an auto mechanic. As Riley begins to talk about the inspiration for his desire to develop as an auto mechanic, he describes the actions of his mom's old car as it starts to deteriorate. He remembers that she stated about her car, "It was shaking itself to pieces." This language example demonstrates how many drivers outside of the world of auto mechanics sometimes try to use their own knowledge of language to describe for auto mechanics the actions and noises of a car. Perhaps some of you reading this article may recall a time when you took your car to an auto mechanic and attempted to describe what was happening in the car. Auto mechanics often have to negotiate language with customers who are searching to use social language to describe what is being observed about a car. The auto mechanics must then use their understanding of these language exchanges in order to inform problem solving related to the cars they are trying to fix. Riley astutely gives us an example as to what that language sometimes looks like during these exchanges.

As Riley begins his development as an auto mechanic, he describes his attempts to secure mentors. Croce & McCormick (2020) remind us that mentors may help individuals navigate the discourses used outside, inside, and between individuals in multiple disciplines. Riley's video text highlights the reality that often students must find their own mentors:

“I did not know how to work on cars yet, so I went and found my friend who I went to high school with down the road. He liked working on cars. We have another family friend in a different neighborhood, but he had all the tools that we would need. He had the experience. He used to work in a professional mechanic's shop. So with my friend who was also enthusiastic about cars and kind of my mentor, my first mentor who knew a lot about working on cars, I kind of felt that I had the proper skill set and support to get it done.”

Riley communicates a high comfort level with the two individuals that he selected as mentors. The prior social relations between these individuals may mean that they share ways of using language already before Riley starts his journey into the world of auto mechanics. Being able to draw on social ways of communicating may help provide a bridge towards the new ways of communicating that Riley is seeking (auto mechanics). Individuals who do not have access to mentors already in their lives now have the option to use Google, YouTube, and TikTok to seek out auto mechanic mentors who have put their expertise on social media. Across these social mediums, individuals can observe professional auto mechanics communicate problem solving while working with cars.

Within his video text, Riley uses his evolving understandings of language to describe the problem solving necessary to fix his mom's car. He relates, "What turned out to be the problem was the control arm on the Infiniti had gone out and so when you are driving it, it felt like it was shaking itself to pieces." Within these statements, Riley demonstrates how his evolution as an auto mechanic now enables him to interweave the language used by auto mechanics ("...the control arm on the Infiniti had gone out") with the social language used by his mom ("It was shaking itself to pieces"). Together these two phrases positioned side by side demonstrate how Riley's literacy has expanded to include the merge of two interlocking spheres of influence.

Multiple disciplines use language to engage with others in order to solve problems (Ortlieb et al., 2023). Within the narration in his video text, Riley indicates, "It taught me a lot about problem solving, and a lot about project management, a lot about project research, a lot about critical thinking." In order to diagnose the problem with his mother's car, Riley would have had to learn about assessment, weighing options, examining the viability of different options, and selecting solutions. These steps require both science and mathematics practices that are unique to auto mechanics. The assessment option would require checking for factors such as noises in the car, shaky steering, unstable breaking, or steering that veers to one side. If any of these symptoms are present, an auto mechanic can consider the options and look for cracks or damage in the control arm, worn down ball joints, or damaged bushings within the control arm. An auto mechanic might also consider the breaks or the tires to be the source of the problem. Once observations are made, the auto mechanic must select a solution. If the

solution selected is to address the control arm, the auto mechanic must decide if the bushing needs to be replaced or a ball joint needs to be replaced (or both). Mentors may each have a different system for evaluating, diagnosing, and solving car issues. The different approach to these processes may be communicated to mentees through actions or dialogue. Riley's discussion of his evolution as an auto mechanic as he worked on his mom's car highlights for the audience the power of mentorship and acquiring discipline specific language.

While recalling how he inherited a car from his grandfather that needed repair, Riley provides extensive examples that demonstrate the uniqueness of the language of auto mechanics. When discussing the type of car given to Riley as he moved to college, Riley notes that it was "...a 1988 chevy C1500. It's a quarter ton pick-up wheel drive." Later Riley proposes. "It's not the best car for snow." When watching the sections of Riley's video text that presented this quote, I had to rewind the video text multiple times to make sure that I had correctly written down the make and model of the car. I have not had many experiences speaking with auto mechanics or car salesmen, so I do not use the language of car makes and models. I can't even identify many of the types of cars that I see on the road when I drive. In addition, I do not have the ability to speak about the functionality of each type of car. In contrast, Riley has now evolved in his identity as an auto mechanic so that he is able to describe the make and model of a car and use language to analyze the functions of a car (which cars are best for driving in the snow.) Successful auto mechanics who work in repair shops are able to communicate their knowledge base either to customers or other individuals who then work with

customers. This is a type of literacy that is specific to the discipline of auto mechanics. Communication occurs both inside communities of auto mechanics and between those inside the auto mechanic community and those outside the auto mechanic community. When individuals begin to communicate in these ways, they are said to be developing disciplinary literacy. Disciplinary literacy refers to the specialized literacy practices within different disciplines (Moje, 2015; Shanahan et al., 2011). Riley's video text helps audiences understand a bit more about the unique ways that auto mechanics read, write, and speak amongst themselves and to others.

Riley shows us the difficulties of attempting to navigate discipline specific language on his own. As Riley traveled from Arizona to 30 miles outside of his college town in Idaho, his car experienced problems. At this point in his evolution as an auto mechanic, Riley is now able to use discipline specific language to list multiple options for what may be wrong with the car. Yet, at the same time he also states, "I knew nothing. I was like....well, I had a truck that worked. I no longer had a truck that worked anymore." As individuals make early attempts to navigate new disciplines, they exist in between full confidence with language and lack of confidence with language. Riley's move to a new state separated him from his previous auto mechanic mentors. His evolution as an auto mechanic stalls until he is able to find a way to seek out new mentors to support his language use and critical thinking.

Riley describes the importance of bringing together multiple individuals to work together to pose problems in auto mechanics. One of the goals of an auto

mechanic is to address the idea that something works until it doesn't. Individuals come together to figure out why the car stopped working in certain ways. A customer can present information about events in the past that may inform the problem. In Riley's case, he had to decide how to move forward on his own when reflecting on his nonfunctioning grandfather's car in Idaho. His grandfather, the previous owner of the car, was not able to provide Riley with more context that could inform future problem solving. As Riley describes it, his grandfather stated, "I have no idea what you did." Riley did not have the option to pay a professional auto mechanic to serve as a model. By discussing these factors, Riley reminds the audience how much mentors are influencing his development at this stage of his journey as an auto mechanic.

Using Language to Seek Auto Mechanic Mentors

As Riley addresses his attempts to determine how to fix his grandfather's car, he highlights the importance of examining multiple texts within auto mechanics. Riley points out a specific note that shapes his decision making as he pondered what to do with his grandfather's nonfunctioning car. A note was placed on his friend's car by an unknown author (later identified as James). The purpose of the note was to present an offer to repair Riley's friend's car. Riley responded to this handwritten note with a text. Since Riley concealed his identity during his first few text communications with the note's author (James), the author of the note begins mentoring Riley without realizing who Riley was. Riley is not the owner of the car upon which the note was left. Despite this uncertain start to the mentoring relationship, James begins to guide Riley's problem solving as they

communicate through text. This process leads James to conclude that Riley is having problems with his car's engines. These exchanges demonstrate how engagement with different text types may encourage problem solving within auto mechanics.

Riley found a mentor who would help him navigate multiple types of texts within the discipline of auto mechanics. James helped develop Riley's abilities to search social media in order to purchase an engine. After searching across the internet, they found a deal on Instagram. A salvage yard presented a deal called an "I carry sale". Whatever you could pick up and carry 20 feet you could buy for \$69.99. As Riley learned where to look for ads and the types of companies that could help him, he had to begin to navigate the languages used by different venues in their advertisements.

As Riley's journey continued, he began to use different types of texts in ways that were new to him. He transacted with auto mechanic specific advertisements that were new forms of texts to him. He had to compare and contrast what he could afford and what was possible within the limits of physics. The engine could weigh anywhere between 350 and 560 pounds. He had to determine if the new engine would fit in the car, how could he drag a 560 pound engine 20 feet, and how he could get the new engine into the car. After Riley found solutions to all of these questions, he decided to post to TikTok parts of his actions as an evolving auto mechanic. Specifically, he wanted to highlight for an audience how he figured out how to drag a 560 pound engine 20 feet. Five million, one hundred thousand people watched this video text. One might imagine that viewers of the TikTok video might be comprised of individuals both familiar and

unfamiliar with problem solving within auto mechanics. Riley had come full circle by becoming a type of mentor himself to others on TikTok who wanted to see how he solved the problem of how to carry a 560 pound engine 20 feet. TikTok ended up having to pay him due to the large number of views to his video. This brought many new types of texts and communications into Riley's life as he found himself receiving communications about payment. In addition, sponsors reached out to ask Riley to endorse their products (offers that he declined given his still evolving identity as an auto mechanic). The actions of the sponsors also brought new types of texts into Riley's life. Riley's experiences demonstrate how problem solving may be accomplished through engagement with different types of auto mechanics texts.

Conclusions

As Allen (2025) details how he navigated his evolving identity as an auto mechanic, he reveals some of the different literacy practices within the discipline of auto mechanics. He increases his understanding of the unique ways of communicating in auto mechanics. Individuals hoping to become auto mechanics may find connections to new ways of communicating and understanding problem solving by watching Riley's video text. Educators may also gain insight into how to guide novices through the process of developing literacy within auto mechanics.

It is important to note that the examples in Riley's video text are specific to the context that he presented. Other developing auto mechanics can further add to the discussion of auto mechanic literacy. For example, future understandings may come from

investigating auto mechanics working in businesses or attending schools internationally. Investigating multiple contexts may help further define the literacy practices of auto mechanics.

Riley's video text may provide students in educational environments with ideas for new types of texts that represent mathematical and scientific thinking in the world. Specifically, when considering how to support students within STEM fields, attention must be paid to engagements that occur inside of and outside of auto mechanics spheres of influence. Educational environments such as trade schools, community colleges, and businesses may consider how individuals might be presented with mentors to facilitate language negotiations surrounding auto mechanics. Educational environments might also consider how oral and written auto mechanic texts are evolving. The mathematics and science are sometimes discussed in very broad ways by educators; however, individuals navigate mathematics and science in pursuit of very specific goals. When educators, businesses, and families consider how to support students, they must investigate the unique ways that communication occurs in different fields.

Questions to Consider

- Is the development of auto mechanic literacy only possible through access to mentors?
- Do mentors within the discipline of auto mechanics have to be able to navigate both social language and discipline specific language when working with apprentices?
- What are the range of text types that inform auto mechanics across continents?

Future Directions for Investigation

- Would the literacy practices of other developing auto mechanics across the world be similar or different to the literacy practices presented in the Riley video text?
- Can teachers use texts centered around auto mechanics in order to support students as they develop mathematical and science literacies?

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Shaping societies: Disciplinary literacy in forensic science

Keri-Anne Croce

For centuries, individuals living together have developed boundaries for the actions that they consider appropriate among the members of formed societies. These boundaries, called laws or rules by some communities, help to guide members in their actions. Members of a community are sometimes selected to determine if laws or rules have been violated by an individual. Communities turn to forensic science to help contribute to decisions surrounding whether an individual's actions violate the laws or rules of a particular community. Community members' evolving relationships with forensic science could shape the fate of other community members. We study literacy practices surrounding forensic science in order to determine community members' evolving relationships. These processes are called disciplinary literacy in forensic science.

Disciplinary literacy examines practices that are specific to different domains (Ortlieb et al., 2024; Shanahan & Shanahan, 2012). Disciplinary literacy in forensic science explores the unique ways that forensic science texts are created and understood across

diverse participants. Forensic science is comprised of diverse sciences, such as biology or chemistry, which have unique ways of reading, writing, and speaking. Since multiple sciences within forensic science develop reasoning in different ways, it can be challenging to navigate multiple forms of science discourses in forensic science (President's Council of Advisors on Science Technology, 2016). A majority of research centering on communication in forensic science focuses on the roles and responsibilities of forensic science experts as they testify during trials (Hackman, 2021). In addition, research has examined the relationships between forensic science and ethics (Ward, 2023). For many years forensic scientists have focused on how to communicate their findings to judges and juries while positioning their statements within a lack of certainty. As Martire (2018) explains:

A forensic scientist can never know without any doubt (even if very small) that a particular suspect left a mark or contributed a sample. Their analytical methods cannot establish the ground-truth for a past event. Instead, the result of a comparison between known and questioned samples (be they impressions, patterns, substances or scenarios) produces observations that the forensic scientist believes are more or less consistent with one or another possible past cause. (p. 619)

Forensic scientists reconstruct the cause of actions after studying the effects of the actions. Expert forensic science witnesses must find ways to talk about their conclusions while acknowledging the deconstructive nature of their methodologies. Research is needed that examines how forensic science is communicated beyond preparing forensic

scientists for trial. These discussions may help examine how reading, writing, and speaking forensic science can inspire the evolution of societies.

What are the Types of Forensic Science Texts and Who Uses These Texts?

Many forensic science texts center on forensic evidence. Forensic evidence is forensic information that is collected and may be potentially used in a case. Forensic evidence may draw from sciences such as chemistry, biology, or physics. Figure one displays a set of possible uses for forensic evidence in the United States. Other countries may use forensic evidence in different ways. Once a case moves to trial, the participants involved in language exchanges centering on forensic evidence may become even more diverse. Hackman (2021) describes the coming together of such different individuals in a court:

A criminal investigation and the subsequent presentation of the case in court results in people coming together from widely disparate groups, bringing with them different educational backgrounds and understanding of science. Forensic scientists, police, lawyers come together with members of the public as finders of fact in the courtroom. This means that communications that occur during the investigation are often cross-disciplinary and have to traverse barriers, both cultural and social. (p. 2)

Detectives, witnesses, victims, suspects, lawyers, legal aides, judges, juries, insurance investigators, insurance claim processors, forensic scientists, and the general public all encounter forensic science texts in the course of their professional lives. The types and

purposes for these texts may vary. For example, forensic science texts may include DNA tests, tire track marks analysis reports, case appeal documents, paperwork needed to file case appeals, letters to opposing counsel, and insurance claims. As societies grow, the list of forensic science texts expands. Each of these types of texts uses language for different purposes and is shared with diverse audiences. We must begin to compare and contrast how each of these different types of texts uses languages to communicate. By understanding the differences across forensic science texts, individuals may become more persuasive readers and writers.

What Can We Accomplish When We Communicate Forensic Science?

Over time humans develop better ways of explaining things. We evolve and grow in our understandings of the world. With the evolution of our understandings, we turn away from certain methodologies in forensic science and begin to adopt newer methodologies. Literacy practices evolve to reflect these changes. Within the United States, individuals may be accused of crimes, such as driving under the influence (DUI), hit and runs (vehicular assault), speeding, burglary, rape, or murder, that may prompt the collection of forensic evidence. An individual may know someone facing these charges or may be directly advising someone facing these charges. Individuals may be working in an office that is advising an individual facing these charges, may be tasked with deciding whether a person is found guilty or innocent of these charges, or may be prosecuting someone facing these charges. All of these actions involve the exchange of texts or oral communication. This constitutes disciplinary literacy in forensic science.

Why Try to Understand Patterns Within Forensic Science Texts?

It would be helpful if communities understood patterns that can be found in written texts that center around forensic science. If we can understand the purposes for the different patterns within language in a text, we can better understand what an author is trying to accomplish. When an outsider to a community starts to try to understand texts that are used inside a community, it can sometimes be difficult to understand the meaning intended by an author. In addition, if authors understood the options that they had for using language, they might be better able to persuade.

In order to better understand how language is used by authors of forensic science texts, a qualitative study was designed to analyze documents filed within courts of appeals in the United States. After a criminal case has been awarded a guilty verdict, defendants may file documents to appeal the case. These documents serve as requests to overturn a case's outcome due to reasoning specified within the documents. Some appeals documents provide details as to the types of languages that center on communication surrounding forensic evidence. Analysis of these documents may help strengthen understandings of disciplinary literacy in forensic science.

As a researcher with twenty years of experience analyzing disciplinary literacy, I have investigated science and mathematical texts across audiences. For example, I have examined forensic science texts at a university level (Croce et al., 2023; Raje et al., 2024), and biology, chemistry, and physics texts across audiences (Croce, 2013, 2015a 2015b, 2020; Croce & Firestone, 2020; Croce & Goodman, 2020; Croce & Spence 2023; Croce

& Watson-Vandiver, 2020). In addition, I have also focused on mathematical texts used across diverse audiences (Croce, 2020, 2023; Croce, K. & McCormick, 2019). Within the study described in this article, I set out to examine how filed case appeal documents in the United States could tell us more about some of the literacy patterns that define forensic science texts. Specifically, the research question being asked within the study was, “What language patterns can be found in filed written court appeals that include forensic evidence over a seven-year period in Maryland?” Both content analysis and discourse analysis were used as research methodologies in order to better understand patterns within the texts. By researching how forensic evidence is shared, we can begin to understand the influence of forensic texts on decision making.

Data Collection

The search engine Google Scholar was used to obtain documents filed within either the Court of Appeals or Court of Special Appeals within the state of Maryland between 2018 and 2025. This search yielded 14,000 documents. The search results were further filtered by using the search term “forensic evidence”. The use of this filter then yielded 1,030 documents. Content analysis (Erlingsson & Brysiewicz, 2017) was used to find documents which specifically stated context related to how forensic science was used in the case of an appeal. This yielded the final 40 documents that were analyzed within the study. The selection criteria for documents used in the study can be described as follows: Court of Appeals documents or Court of Special Appeals documents filed between 2018 and 2025 in the state of Maryland that reference forensic evidence in the court proceedings of the cases.

Data Analysis and Credibility

After content analysis (Erlingsson & Brysiewicz, 2017) was used to determine that the documents fell within the context of appeals filed in Maryland that included forensic evidence, discourse analysis was then used to analyze the forty documents. The initial coding process began as a research assistant and I independently coded the documents. The focus of the coding was to look for elements that stood out (Bahktin, 1981). We each assigned preliminary codes to each element. We then came together to discuss coding. A tentative agreement was made on coding that allowed each of us to independently recode each document. We met again to review the codes and introduce new codes. Over the course of five months, the process was repeated two additional times. In each meeting, we revised the coding system. The patterns presented in this article were developed as a result of this coding system. The credibility of the findings is based on the longitudinal nature of the study investigating documents created over seven years, as well as discussions between researcher and research assistant to test the accuracy and trustworthiness of the data analysis (Patton, 1990).

Patterns within Forensic Science Texts

The study described in this article situates disciplinary literacy in forensic science in a specific time and place. The documents that were analyzed for the study were situated in the United States in Maryland within a seven year period. Other countries may produce documents that present different discourses that shape disciplinary literacy in forensic science. It is expected that discussions of the elements within disciplinary

literacy in forensic science will evolve over time and across and between countries. This article presents six patterns found within the discourses of the analyzed Court of Appeals and Court of Special Appeals documents found in Maryland. Table 1 presents each of the six patterns that were established across the documents.

Table 1. Patterns in Court of Appeals or Court of Special Appeals documents

	Categories
<i>Pattern one</i>	Grouping forensic evidence with similar purposes
<i>Pattern two</i>	Using forensic evidence to help describe connections
<i>Pattern three</i>	Exploring forensic evidence that lies outside established patterns
<i>Pattern four</i>	Examining decision making using forensic evidence
<i>Pattern five</i>	Addressing a jury’s desire for more forensic evidence
<i>Pattern six</i>	Investigating sociocultural distrust of science

Pattern One: Grouping Forensic Evidence with Similar Purposes

Language was used within the documents to describe how forensic evidence with common purposes is grouped together. In this pattern readers can see how individuals label forensic evidence in ways that will connect juries or judges. Individuals are encouraged to distinguish forensic evidence within different contexts. *Reginald Dunlap v. State of Maryland (2025)* provides an example of these patterns. The “v” in the title means versus and is used to help distinguish the defendants and the prosecutors in each case. Within this document, the appellant asks that the court consider if a detective’s testimony regarding geofence evidence should have been admitted into the court

proceedings. The appeal text states, “Did the trial court err in admitting Detective Galladora's testimony regarding "geofence" evidence?” (p.1) An appellant is an individual who files a document with a court that ranks above the court that rendered the initial decision on a court case. The case may be “overturned.” The term “overturned” means that a second court disagrees with the first court on a case outcome. The decision of the second court may be implemented in replacement of the decision of the first court. In the appeals document *Reginald Dunlap v. State of Maryland* (2025), the validity of geofence data is questioned. Geofence data is often used when a suspect is unknown to investigators and the police would like to use technology, such as smart phone data, to determine which individuals were in a specific area at a specific time (National Association of Criminal Defense Lawyers, 2025). The officers provide a technology company with a geofence warrant requesting that the company provide information identifying individuals who were using devices that interacted with the company’s technology at a specific time and place. Geofence forensic evidence is a set of evidence grouped together for specific purposes such as location identification. Many documents analyzed in the study contained examples of language being used to group together forensic science evidence with similar functions.

Pattern Two: Using Forensic Evidence to Help Describe Connections

Conversational language might be coupled with scientific terminology in order to shape a case. One element within this category considers how conversational language may define for juries the elements of conditionality, causation, correlation, and cause and effect. Within the text of *Calvin M. Stevens v. State of Maryland* (2024), the appellant asks

the court, “Did the trial court commit plain error in permitting evidence and argument that three shell casings recovered at the crime scene had, unquestionably, been fired from a known handgun?” (p. 1). The appeal seeks to revisit connections of causation or correlation related to forensic evidence. Language is used to describe if one event directly led to another event or if one event only happened when another event preceded the first event. In the case of *Calvin M. Stevens, v. State of Maryland* (2024), language in the text is used to examine if shells may be directly linked to a specific handgun. Terms like ‘unquestionably’, ‘failed’, ‘irrelevant’, and ‘no relationship’ are used to persuade. These examples demonstrate how conversational language may be used to try to persuade juries to make connections between elements of forensic evidence.

Pattern Three: Exploring Forensic Evidence That Lies Outside Established Patterns

Within this third category, language is used to explore how to consider forensic evidence that may serve as an exception to established patterns. Here language is used to consider the idea that just because something occasionally happens does not mean that it frequently happens. In this sense, language is used to consider how juries should weigh the importance of outliers. *Ryan Christopher Holden v. State of Maryland* (2023) describes how the forensic evidence of video was presented in the court in an effort to persuade:

Mr. Holden argues *next* that the trial court abused its discretion by admitting a video showing Mr. Holden holding a handgun. He cites three reasons. *First*, he contends the State failed to authenticate the video

properly. *Second*, Mr. Holden asserts that the video was irrelevant because "there was no relationship between the gun in the video and the crime charged." *Finally*, Mr. Holden contends that the video constituted unfairly prejudicial "other crimes" or "bad acts" evidence." (unpaged)

Here language is used to argue that just because something occasionally happens does not mean that it frequently happens. Phrases such as 'no relationship' are used to persuade. This is communicated by stating the connection that just because Mr. Holden is seen in the video holding a handgun does not mean that the same event occurred at the scene of the crime. This type of language is used to convince juries that past actions may or may not be predictors of future actions.

Pattern Four: Examining Decision Making Using Forensic Evidence

Multiple examples demonstrate how individuals use language to describe how alternative decision making based on forensic evidence may or may not reshape a case. Individuals communicate the influence of forensic evidence on decision making before cases arrive in a courtroom. Within this pattern, language is used to describe how individuals communicate to juries the many possible pathways that forensic evidence can take before it arrives in a courtroom. Individuals encourage juries to review decision making that occurred based on forensic evidence. Examples of this can be seen in *Michael Earl Amick v. State of Maryland* (2023):

The police recovered several pieces of physical evidence and tested them for DNA, but the results were inconclusive. *Id.* at 4-5. The authorities did not

charge Amick at that time. *Id.* at 4-6. He moved to Hawaii. *Id.* at 6 n.7. In 2015, using new and more sensitive analytical techniques, forensic scientists detected a mixture of Amick's and Roxanne's DNA on two pieces of evidence. *Id.* at 5, 6. In 2016, while Amick was visiting his family in Maryland, the police arrested him. *Id.* at 6.” (unpaged).

Phrases such as ‘the results were inconclusive’, ‘did not charge at that time’, and ‘using new and more sensitive analytical techniques’ are sometimes used to describe the journey that a case takes and how forensic evidence influences that journey. At multiple stages of the investigation, a different decision may have led to a different outcome. Appeal documents sometimes question the reasoning behind different decisions that are made during an investigation.

Pattern Five: Addressing a Jury’s Desire for More Forensic Evidence

Language is sometimes used to help juries examine what is possible within the field of forensic science. In order to achieve this goal, sometimes language is used to describe a perceived lack of reliability within a type of forensic evidence. When examining what is possible, juries shape conclusions. *Anton Harris v. State of Maryland* (2024) provides an example of such language:

Most pertinent to the present appeal, the State presented the testimony of Zoe Krohn, a firearms analyst for the BPD who analyzed the cartridge casings found at the scene to determine whether they had been fired from the Polymer 80 handgun. Ms. Krohn used the Association of Firearm and

Toolmark Examiners' "Theory of Identification" (hereinafter "AFTE Theory") which is widely used by police officers." (unpaged). Later it was argued, "The State opposed the motion, arguing that the AFTE Theory is a reliable scientific method and attached numerous studies that it asserted demonstrate low error rates when examiners are tested on their ability to match cartridge cases and bullets. In advance of trial, appellant moved in *limine* to exclude the firearms identification evidence as unreliable under the *Rochkind-Daubert* standard set forth in [*Rochkind v. Stevenson*, 471 Md. 1 \(2020\)](#). He argued that firearms identification, generally, and the AFTE Theory, specifically, were unreliable. (unpaged).

When using words such as "generally", "specifically", and "unreliable" the author is using language to question the trustworthiness of the forensic evidence analysis, raising doubt as to the resulting decision making. Language is used to try to dissuade or persuade others to look for more collaborating evidence.

Pattern Six: Investigating Sociocultural Distrust of Science

Sometimes language is used to investigate why jury members may develop a distrust of science as they navigate within and outside of different communities. Juries may relate to forensic evidence in multiple ways. Language is used to investigate why and if jury members consider how inequities may occur during investigations or prosecutions. These inequities can influence individuals to develop a distrust of court

proceedings that involve forensic evidence. For example, in *Albert M. Muldrow Jr. v. State of Maryland* (2023), it is stated:

When the evidence presented at trial will implicate, either directly or indirectly, the sexual orientation or sexual proclivities of a defendant or witness, the court must inquire about any potential bias among the jurors against homosexuality or homosexual acts. The court does not need to ask the *voir dire* question exactly as it is phrased, however, and may rephrase the question if appropriate. (unpaged)

Within this example, the documents present the possibility that the sexual orientation of the appellant may have informed the decision making centered around the case.

Language is used to suggest that the appellant's identity may have inspired bias in multiple participants engaged in the case. This may suggest that the decision making was biased and, therefore, unreliable.

The appeals documents analyzed in the study reflect actions and dialogue surrounding court cases in Maryland. Other forensic science texts may yield other patterns. Future research may investigate different contexts for forensic science texts such as examining DUI reports or insurance claims. Future research should begin to examine the types of language exchanges that define these texts.

New Audiences Participating in Disciplinary Literacy in Forensic Science

While science communication has been around as a field for many years, it is only recently that new audiences have begun to attend to forensic science. Within the last

decade, there has been an increase in the types of media that focus on the depiction of real-life criminal cases. Podcasts, television shows, blogs, and movies all have examples of creators depicting analysis of forensic evidence. The rise of these genres has sparked interest in forensic science (Preece, 2025). The rise in the appearance of true crime media provides more opportunities for members of the public to be introduced to forensic science. The advanced interest in forensic science by the public has necessitated the development of new methods of communication within the field of forensic science. Hackman (2021) suggests that much is unknown regarding the challenges in communicating forensic science. This creates a need for more research that looks at disciplinary literacy in forensic science.

Recommendations

Society as a whole would benefit from examining disciplinary literacy in forensic science. By understanding how forensic science communication evolves, members of communities may redefine how laws and rules are defined and enforced. In order to create this type of impact, educational environments might consider directing students to analyze the literacy practices within forensic science. For example, students in middle schools and high schools should be encouraged to examine how language impacts the decision making surrounding a case. University programs would benefit from including literacy in forensic science courses within the curriculums. Courses may reflect on the languages of persuasion and reasoning that are used in court of appeals documents. This type of analysis helps develop students' critical thinking skills. Organizations that support detectives, witnesses, victims, suspects, lawyers, legal aides, judges, juries,

insurance investigators, insurance claim processors, and forensic scientists might provide seminars that examine disciplinary literacy in forensic science. When community members understand the methods of communication surrounding forensic science, they will be better equipped to make informed decisions about the laws and rules that shape societies.

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Figure 1. Possible uses of forensic evidence in the United States

