

Mary H. H. Ensom

Rho Chi Society Lecture – March 2019

“How Kindergarten Prepared You for the Challenge of Responsibly Leading Our Profession”

I am truly honored and humbled to be here today. It seems like yesterday when I was inducted into the Alpha Xi Chapter of Rho Chi at the University of Kentucky in 1976. Back then, never in my wildest dreams could I have imagined that now, some 43 years later, I would be here presenting the 2019 Rho Chi Lecture.

As professional and graduate student members of Rho Chi, you are people who have been blessed with intelligence, ambition, and opportunity. You are the leaders of tomorrow, some of you are even the leaders of today. During this 30-minute presentation, I would like to challenge you to think about how you will contribute to your patients, your team, and your profession and what your future success might look like.

With apologies and acknowledgement to Robert Fulghum who wrote *All I Really Need to Know I Learned in Kindergarten*,¹ the title of my presentation is: “How Kindergarten Prepared You for the Challenge of Responsibly Leading Our Profession”.

Lessons we learned in kindergarten:

1. Be curious.
2. Share.
3. Listen to the teacher.
4. Make friends.
5. Play well with others.
6. Play fair.
7. Clean up your mess.
8. Help others.
9. Say please and thank you.

Lesson 1 - Be curious:

In today’s world, we likely take for granted the answers to many of the questions posed by others years or decades ago. Imagine yourself 100 or more years ago, at a time when our profession was only beginning to make the transition from herbal remedies to chemical entities, and you begin to ask questions. Who first thought that you need to give a larger dose of medication to an adult than to a child? Who first recognized that people with poor kidney function seem to have greater than usual effects when administered a particular drug? Who first noticed that patients who are on two different drugs have a magnified or diminished therapeutic response compared to when they are on only a single agent?

There is so much that we still don’t know that we don’t even know what we don’t know. Things change and you don’t know what the future will be; but, you need to be **curious** and learn

throughout your professional life to help create that future. For example, although I taught clinical pharmacokinetics for more than 30 years and am considered to be an expert in the discipline, I never had a pharmacokinetics course in my bachelor of pharmacy curriculum. In the same way, some of you will specialize in or do research in areas that may not even have a name yet. Many of my recent publications involve topics like pharmacogenetics, limited sampling strategies, systematic reviews, evidence-based practice - just a sampling of terms that weren't even a part of the pharmacy vocabulary when I entered pharmacy school.

My **challenge** to you is: Be **curious** enough to notice occurrences and patterns that others haven't noticed yet and continue to learn throughout your professional life.

Lesson 2 - Share:

Perhaps lots of people were curious and noticed all those phenomena I just described. However, the individuals who shared their findings were the ones who actually got the ball rolling by raising the questions in a public forum.

As an example, more than 85 drugs in use today have the potential to interact with grapefruit and about half of those drugs have interactions that can lead to serious adverse effects.² But, did you know that the first speculation that concomitant ingestion of grapefruit juice may lead to increased oral drug bioavailability was actually based on a serendipitous observation in a study looking at ethanol and the calcium-channel antagonist, felodipine?³ In their study published in 1989, Dr. David Bailey and his colleagues used grapefruit juice to mask the taste of the ethanol and were surprised to find that the study subjects had higher than expected felodipine concentrations and exposure regardless of whether they had taken felodipine with or without ethanol. By publishing this observation, the authors shared their findings with the clinical and scientific community. Since then, hundreds of publications exploring the roles of and examining the mechanisms underlying grapefruit – drug interactions have followed. But, someone needed to observe it first and **share** their findings.

Also to consider is that there's a variety of contributions that can be shared in the evolution of optimal medication use:

- observing unique clinical effects in case studies,
- considering mechanisms of action in bench studies,
- looking for significant clinical effects in clinical trials,
- confirming clinical events in independent collaborative studies,
- synthesizing the information through systematic reviews, or
- educating and promoting optimal therapy so that best practices reach the patient rather than be left merely on paper.

My mantra is this: If you have a question for which there is not a readily-available, evidence-based, relevant, comprehensive answer, there are probably many other pharmacists who have

the same question. So, if you're going to put the work into answering it, why don't you go the extra mile and make your answer available to all those other people?

Something else to think about is that we're living in the age of information explosion. According to one source, between the years 1750 and 1900, it took the world's knowledge base 150 years to double. But, by 2020, information is expected to double every 73 days!⁴

Yet, we're still mostly living in a paradigm of periodic reviews of currently-available primary literature that goes out of date as soon as a new study in the particular subject area is published. Some preliminary work is being done to develop evergreen sources (i.e. continuous real-time updating) of up-to-date literature reviews, but the vast majority are still built on a conceptual framework as old as Gutenberg's printing press.

We need to have the responsiveness of Instagram, Twitter, and daily blogs, and the accessibility of Wikipedia while figuring out how to maintain the scientific rigor that we, as professionals, depend on in our clinical practices. This isn't something that is going to be ironed out today but rather something that *you* as mentors and leaders of the future have the opportunity to be a part of.

My challenge to you: Make the commitment to **share** what *you* observe, learn, or study with your colleagues and the profession. Be part of the development and evolution of evergreen sources of literature.

Lesson 3 - Listen to the teacher:

Of course, you listen to the content of the subject matter, but go beyond that. Pay attention to how every teacher interacts with the learners and be aware of your response to their style of teaching, organization, personalization, delivery, evaluation and follow-up, both good and bad.

I was recently asked, "What is one thing that you learned in school that you use every day?" My answer was similar to what I've said many times before:^{5,6} There is not just one single thing. Rather, what I learned and use every day comes from observing and critically evaluating how my preceptors and teachers treated, motivated, or encouraged me; and then observing and evaluating my reactions as a learner to what they did. I hope that what I've exhibited as a teacher and mentor is an amalgam of the most positive techniques and characteristics that I have benefited from throughout my life. In other words, I am an imitator.

I had wonderful role models like Dr. Paul Sears (who, by the second week of school, knew every one of the ~ 150 students in my freshmen chemistry class by name), Dr. Bill Lubawy (who kept our physiology/pharmacology class engaged with his contagiously enthusiastic manner), Dr. George Francisco (who encouraged me to be inquisitive by affirming that no question is a dumb question; and really meant it), Dr. John Cormier (who, at the time that I had little experience or credentials, nurtured and created opportunities to develop my career), Dr. Bob Blouin (who always had an open-door policy and explained difficult pharmacokinetic concepts in a way that

made them easy to understand), Dr. Bob Rapp (who offered my first experience with writing and publication when I was a PharmD student)....and this is just the beginning of a long list. We would be here until the wee morning hours if I were to list every individual who has imparted a significant and positive influence. Some of you are in this room today. I have been trying to imitate the positive characteristics of these individuals throughout my career. I have also learned what not to do from some others.

My **challenge** to *you*: Observe and copy the best of what *you* experience to help *you* excel and be the best that *you* can be.

Lesson 4 - Make friends.

The fact that you're here means that you already know the importance of networking. My career achievements would not have been possible had I not been the beneficiary of the network of colleagues and collaborators whom I met through school, work and professional organizations. For example, one of my other mentors, the late Dr. Tom Foster, had an amazing ability to make connections and create new opportunities for all involved. He introduced me to numerous individuals...from prospective students to colleagues to big names in the profession, because he saw the potential for a synergistic relationship. Dr. Foster was a founding member of the American College of Clinical Pharmacy (ACCP) and the reason I joined ACCP, and who helped me to receive my very first ACCP grant and give my very first ACCP presentation. That grant led to numerous abstracts, posters and podium presentations at ACCP meetings as well as other continuing education events and culminated in a full-length publication in *Pharmacotherapy*.⁷ Furthermore, organizations such as ACCP and the American Society of Health-System Pharmacists (ASHP) helped launch my clinical research career. At meetings, I met pioneers of clinical pharmacy and made new **friends** who became an incomparable network of colleagues and collaborators over the years. Participating in meetings, serving on committees and taking on leadership roles not only helped me to do my job better but gave me opportunities to share our research with the wider clinical pharmacy community.

Making **friends** also means respecting and valuing other members of the clinical team, whether they be physicians, nurses, dieticians, physical therapists, respiratory therapists, social workers, or others. While pharmacists may be the experts in managing drug therapy, other members of the team, through their contacts with patients and with each other, can help identify drug-related problems and opportunities for you to use your expertise. But, that will happen only if you take the time to understand their expertise and contributions and likewise identify and advocate for their opportunities to contribute to patient care.

Not everyone is good at the same thing. As part of a clinical team, you don't have to do everything yourself. In fact, you shouldn't do everything yourself. Similarly, many funding agencies today have gone from supporting single – principal investigator grants to team grants.

My **challenge** to you: Commit to seeing and learning about the potential contribution of others, whether that be in a clinical or research team or the structures of your own profession; and use that network for the advancement of patient care and your profession.

Lesson 5 - Play well with others.

Some of you may be familiar with StrengthsFinder⁸ (or CliftonStrengths), whose premise is that every adult has a certain number of personal character attributes called “talent themes” and you should focus on building on your major talent themes rather than those areas for which you have less natural talent. There are 34 talent themes. (Table 1)⁸

My top 5 themes are: Achiever (“...take great satisfaction from being busy and productive”); Discipline (“...best described by the order they create”); Harmony (“...don’t enjoy conflict; rather, they seek areas of agreement”); Learner (“...have a great desire to learn and want to continuously improve”); and Maximizer (“...focus on strengths as a way to stimulate personal and group excellence;... seek to transform something strong into something superb”).⁸

My career has been characterized by great fulfillment as a mentor, author, collaborator, and integrator (i.e. someone who bridges the gap between the basic and clinical sciences and brings teams together). If you look at my strengths, you can appreciate why my career has been so fulfilling for me.

My husband, Dr. Robin Ensom (also a Rho Chi member; with the Alpha Iota chapter) has these 5 major strengths: *Ideation*, *Learner*, *Responsibility*, *Significance*, and *Strategic*. As expected, he has been drawn to senior leadership positions which involve anticipating and facilitating change. The kind of jobs he has had and thrived in, you couldn’t pay me to take. We all have to find what we’re naturally good at and have a passion for so that we can excel and contribute to patient care and our profession. Only *you* can imagine where this will take you.

My **challenge** to you: Discover and celebrate your strengths and become the best leader *you* can be.

Lesson 6 - Play fair.

We all are aware of people who achieve their success by any means possible. We also know people who, having achieved “success”, abuse the power and prestige that come with it. But, I think we all agree that is not the way we want to earn our achievements nor the way we want to act should we achieve success.

One of the traps on the road to success is taking shortcuts. Another is taking advantage of others along the way. But, I know that as members of a society of honor such as Rho Chi, this audience is more than up to the challenge. Yes, it’s an honor to be a Rho Chi member; but, more importantly, it’s a call to live with honor throughout our professional lives. It’s so heartbreaking to see colleagues and professional acquaintances have their professional and personal lives torn

asunder because of indiscretions small and large. Our profession is built on trust. We care for patients who don't have the skills or knowledge to care for themselves. Usually, we read professional and academic articles and accept the data, results, or conclusions, because we need the answer for patient care right away and don't have time to critically evaluate every single paper in detail. We freely share resources and responsibilities with our colleagues. And, as a result, we are unforgiving when that trust is breached.

I have seen everything from cheating on exams to plagiarism to falsifying data to embezzlement. No doubt, those people felt a moment of exhilaration at having "beat the system". Unfortunately, the consequences are a lifetime of shame if not outright exclusion and loss of all of the professional benefits they worked hard to achieve.

My challenge to you: Set a shining example of what it means to live with honor, not just personally, but in ensuring a similar standard in each of your professional dealings.

Lesson 7 - Clean up your mess.

Things don't always go well despite your best efforts. And, even if things go according to plan, the results may not be what you expected from the outset. As much has been learned from mistakes as has been learned from studies that prove a hypothesis. Don't just share the positive results. Inconclusive and contradictory results may be difficult to get published in full form, but you can share it in a letter to the editor or commentary to keep others from making the same mistakes or to pique interest and stimulate further work.

I'd like to give you an example from my own lab. We were conducting a study of mycophenolate and its metabolites, MPAG and AcMPAG, as well as mycophenolate's protein binding characteristics. We knew from the literature that acidification of samples is required for preservation of AcMPAG. But, we learned the hard way that acidification of samples also led to a falsely high free mycophenolate fraction (i.e., 26 to 42% instead of ~3%).⁹ That meant that for our first 19 lung transplant patients in the study, we couldn't report their protein binding data.¹⁰ We could've stopped there, but instead we published a letter to the editor to warn others that in order to determine both AcMPAG concentration and free mycophenolate fraction, you need to divide the original sample into 2 aliquots, one acidified for AcMPAG and the other non-acidified for free mycophenolate. This also reinforces the value of sharing.

This lesson applies not just to research but also to patient care. In the world of medication safety, we need to value mistakes because they provide the opportunity to learn and make things better. We report them, do root-cause analyses on them, and share them to keep others from making similar mistakes.

My challenge to you: Acknowledge and take responsibility for unanticipated and undesired consequences for the benefit of patient care and your profession.

Lesson 8 - Help others.

Mentorship and leadership as espoused and practiced by some of my role models are shining examples of the concept of “paying it forward”. Again, I will use Dr. Foster as an example. Aside from being an amazing “connector”, if I were to list some of his most salient characteristics as a mentor, I would say: contagiously enthusiastic, energetic, and passionate. I’ve tried to emulate these same traits to “paying it forward”. While I, too, have tried to be a “connector” and enthusiastic, energetic, and passionate, my own career path has taken me in a unique direction. My particular passion is to provide relevant useable information for practitioners and help new practitioners to break through the barrier of getting their first peer-reviewed publication. That’s why I think that if someone were to look at my curriculum vitae and identify what stood out to them relative to other academicians of my generation, they would probably say that I have an unusually large number of publications on a wide variety of topics with extraordinarily diverse co-authors. Because I delight in seeing clinical pharmacists whose focus is not research make contributions to our professional literature, I’ve been the senior author of the first peer-reviewed publication of more than 80 individuals.

No doubt, many of you have already had the experience of volunteering and taking on leadership roles in your professional organizations. I think the universal experience of people who help by being active in their professional organizations is that they come away feeling as if they have benefitted more than they could have ever contributed. Whether it’s in terms of new insights, expanded networks, or renewed enthusiasm, there is nowhere you can give that has this kind of return on investment. As well, mutual support is essential to maintaining a career-long passion.

In paying it forward, I’ve also linked my students, trainees, and colleagues with other individuals around the world, through my connections in ACCP, ASHP, the Canadian Society of Hospital Pharmacists (CSHP), the Canadian Academy of Health Sciences (CAHS), the Canadian Journal of Hospital Pharmacy (CJHP) and other journals, and vast network of trainees and colleaguesmany who have ended up collaborating with one another.

Again, this is my passion and my way of paying it forward. My hope is that you will find your passion and pay it forward by helping others.

My **challenge** to you: Strive for excellence as a role model to help others for the benefit of patient care and your profession.

Lesson 9 - Say please and thank you.

By “please”, I mean giving people on the sidelines the opportunity to get involved. So many people limit their potential by either not seeing themselves as being capable of something or by not being willing to take the risk of volunteering for fear of rejection. As already accomplished student pharmacists and researchers, you will have the inside track to many of these opportunities. As Rho Chi honorees, you may be a little more of a go-getter than the next guy, but that doesn’t mean that others have nothing to contribute. You can be that person who draws along with you someone who is more shy and reserved.

I can't tell you how rewarding it is for me to see the gleam in first-time authors' eyes when they see their names in print. Few things are as rewarding as reaping the fruits of my labor and seeing my former trainees and students become rising stars in the profession and knowing that I played a part in their professional development. But, even more important is the potential that I've had a role in releasing, which has helped to enhance patient care and move our profession forward. What a loss it would have been if no one had invited them to participate with a simple "please".

By "thank you" I mean acknowledging the work of others. How many people have I already paid tribute to in this presentation? They are only a mere fraction of the individuals to whom and the organizations to which I owe a debt of gratitude. Thank you to *all* my mentors, colleagues, collaborators, and trainees over the years. Specifically, for this Rho Chi Lecture Award, I sincerely thank the Selection Committee for this tremendous honor. Special thanks to my nominator, Florian Zhou, past President of UBC's Delta Gamma chapter (the 99th Rho Chi and only Canadian chapter) for his hard work and confidence in me. I'd also like to thank Dr. Bob Sindelar, former Dean of UBC's Faculty of Pharmaceutical Sciences and founder of the Delta Gamma chapter, who has been instrumental in initiating the public recognition of many of my accomplishments; despite the fact that I never did them to achieve recognition, it still means the world to me. I'd also like to acknowledge the support of Delta Gamma executive members and co-advisors Drs. Marion Pearson and Arun Verma, and Dean Mike Coughtrie, as well as others who took time out of their busy schedules to write letters of endorsement on my behalf.

As a person who is standing in front of you because those individuals took the time to thank me by nominating me for this award, I can tell you that "thanks" is one of the least expensive and most meaningful gifts that you can give.

I only hope that through my efforts, I've been able to pay forward for what I'll never be able to pay back to my role models - those teachers, mentors, clinicians, and researchers - upon whose shoulders I have been lifted.....so that I could help lift others.

My **challenge** to *you*: Demonstrate that "it's not all about *you*" in how *you* invite others to contribute and acknowledge their contributions.

In the Spider-Man movie,¹¹ they make much of the adage, "With great power comes great responsibility". At the outset of this presentation, I acknowledged the ambition, intelligence, and opportunities that have seen your inclusion in this prestigious society. Those attributes give you great power in leading our profession into the future. I only ask that you remember these simple lessons from kindergarten so that you wear this leadership mantle with the incumbent responsibility. (Table 2)

Thank you.

Acknowledgement

Presented at the Annual Meeting of the American Pharmacists Association, Seattle, Washington, Sunday, 24 March 2019.

References

1. Fulghum R. *All I Really Need to Know I Learned in Kindergarten: Uncommon Thoughts on Common Things*. New York, NY: Villard Books; 1990: 6-7.
2. Bailey DG, Dresser G, Arnold JMO. Grapefruit–medication interactions: Forbidden fruit or avoidable consequences? *CMAJ*. 2013;185(4):309–16.
3. Bailey DG, Spence JD, Edgar B, Bayliff CD, Arnold JM. Ethanol enhances the hemodynamic effects of felodipine. *Clin Invest Med*. 1989;12(6):357-62.
4. McIlroy T. The information explosion (and its implications to the future of publishing). August 2010. <https://thefutureofpublishing.com/influences/the-information-explosion-and-its-impact-on-the-future-of-publishing/> Accessed April 24, 2019.
5. Ensom MHH. Joys of precepting: lessons learned. *Can J Hosp Pharm*. 2005;58(2):59-60.
6. Ensom MHH. Research and scholarship for researcher-educator faculty: top 10 survival tips. In: Zlatic TD, ed. *Clinical Faculty Survival Guide*. Lenexa, KS: American College of Clinical Pharmacy (ACCP); 2010:259-67.
7. Chandler MHH, Clifton GD, Louis BA, Coons SJ, Foster TS, Phillips BA. Home monitoring of theophylline levels: a novel therapeutic approach. *Pharmacotherapy*. 1990;10(4):294-300
8. Rath T. *StrengthsFinder 2.0*. New York, NY: Gallup Press; 2007:1-175.
9. Ting LSL, Decarie D, Ensom MHH. Effect of acidification on protein binding of mycophenolic acid. *Ther Drug Monit*. 2007;29(1):132-3.
10. Ting LSL, Partovi N, Levy RD, Riggs KW, Ensom MHH. Limited sampling strategy for predicting mycophenolic acid area-under-the-curve in adult lung transplant recipients. *Pharmacotherapy* 2006;26(9):1232-40.
11. Ziskin L (Producer), and Raimi S (Director). 1994. Spider Man [Motion Picture]. United States: Columbia Pictures.

Table 1. 34 Talent Themes described in StrengthsFinder⁸

Achiever	Futuristic
Activator	Harmony
Adaptability	Ideation
Analytical	Includer
Arranger	Individualization
Belief	Input
Command	Intellection
Communication	Learner
Competition	Maximizer
Connectedness	Positivity
Consistency	Relator
Context	Responsibility
Deliberative	Restorative
Developer	Self-Assurance
Discipline	Significance
Empathy	Strategic
Focus	Woo

Table 1. Summary of Lessons and Challenges

Kindergarten Lesson	My Challenge to You
1. Be curious.	Be curious enough to notice occurrences and patterns that others haven't noticed yet and continue to learn throughout your professional life.
2. Share.	Make the commitment to share what you observe, learn, or study with your colleagues and the profession. Be part of the development and evolution of evergreen sources of literature.
3. Listen to the teacher.	Observe and copy the best of what <i>you</i> experience to help <i>you</i> excel and be the best that <i>you</i> can be.
4. Make friends.	Commit to seeing and learning about the potential contribution of others, whether that be in a clinical or research team or the structures of your own profession; and use that network for the advancement of patient care and your profession.
5. Play well with others.	Discover and celebrate your strengths and become the best leader <i>you</i> can be.
6. Play fair.	Set a shining example of what it means to live with honor, not just personally, but in ensuring a similar standard in each of your professional dealings.
7. Clean up your mess.	Acknowledge and take responsibility for unanticipated and undesired consequences for the benefit of patient care and your profession.
8. Help others.	Strive for excellence as a role model to help others for the benefit of patient care and your profession.
9. Say please and thank you.	Demonstrate that "it's not all about <i>you</i> " in how <i>you</i> invite others to contribute and acknowledge their contributions.