

# Training Students to Serve: The Applicability of K. Anders Ericsson's Theory of Deliberate Practice for Expert Performance in Contemporary Schools

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## Abstract

*The application of research-based methods of skill development has enabled people across a variety of fields to reach extraordinary levels of achievement. Among the various fields where superior achievement might be attained, training individuals to recognize the dignity of others and strive for remarkable accomplishment in humanitarian service would be an area that would greatly affect our schools, society and world.*

**Keywords:** service learning, values instruction, justice education

## Introduction

Can training methods utilized by Olympic greats have anything to offer teachers? Can musician Paganini, chess master Capablanca, and others who achieve superior levels of expertise offer a theoretical framework for teaching service in our diverse educational systems? The growing field of expert performance theory offers a valuable structure for educators interested in peace, service or social justice education. As instructors, each course allows us to help our students develop different forms of expertise. Among the many diverse goals of education, challenging students to live lives of service and embrace notions of peace and justice are central to the mission of many schools.

The Interstate School Leaders Licensure Standards (ISLLIC), for example, highlights the various dispositions required of educational leaders. The proficiencies call for school leaders to embody and encourage practices that promote the common good and a caring school community as well as to advance a more humane culture. Although most educators have been trained in a variety of teaching and administration skills, it is essential to offer a theoretical framework to address how people can impact the dispositions we have in respect to serving others.

How can leaders intentionally design and implement structures that will provide an opportunity for students to be trained to care for others? Can altruism be taught? If, so how can we instruct for service? This research describes the applicability of K. Anders Ericsson's theory of expert performance through deliberate practice on those who demonstrate a superior level of achievement in service.

## Conceptual Framework and Review of Literature

For school administrators there are vastly different perspectives on the mission of education, however, it would be difficult to determine if a school or student were successful, if we did not articulate to some degree the purpose of education. Realistically, it might be best to speak of the purposes of education when dealing with our contemporary context. Wolk (2007)

critiques our “textbook driven curricula” and connects the question of what it means to be educated with the question of what it means to be human (p. 650). Rather than educating our students to be workers he advances several themes that ought to be central to education, but are underemphasized, namely: love for learning, learning about the self, social responsibility, caring and empathy, and global awareness. This essay approaches educational administration and the goals of education from this context and advances student acquisition of the “expertise” of serving those in need as a central value for educators.

### **Ericsson’s Conceptual Framework**

Psychologist K. Anders Ericsson’s model was selected for this research because of his international reputation as a leading authority on expert performance. After decades of observing superior achievement through domains as diverse as hockey, typing, surgery, chess, and music, Ericsson has advanced a theory to explain how some individuals transcend the levels of performance that other very motivated individuals cannot attain. Ericsson downplays the role of genetics in the attainment of expertise and asserts that only specific types of experience create expertise.

Ericsson emphasizes the importance of coaching. Typical experts begin an activity in youth and are noted for a skill level that sets them apart. People with outstanding promise will then find a coach capable of helping them arrive at the next level. In his study of expert pianists, Ericsson et al. (1993) found that there had been “considerable efforts to seek out the very best musical teachers during their musical development” (p. 380). Coaches provided individualized instruction (Cote, Ericsson & Law, 2005, p. 6), designed and implemented effective training strategies, and offered feedback including the “planning, analysis, execution, and monitoring of performance” (Ericsson, 2006, p. 698).

Ericsson also explains that the types of activities used to practice within the domain are paramount. It is deliberate, focused activities that incorporate domain specific strategies into the process of incremental growth. For Ericsson (2002), these activities are characterized by: specific goals that take a person beyond his or her capacity in the domain, extended periods of intense activity, the promotion incremental improvement in the domain, and the use of mentors to offer critical feedback (p. 11). Ericsson (2006) explains that individualized feedback is essential because it allows one’s practice to directly lead to the actual acquisition of skills essential in the domain (p. 694) as people must use “adequate strategies” to advance beyond existing talent level (Ericsson et al., 1993, p. 367). People who practice using flawed methods will repeat their flawed performance. Individualized feedback given immediately from an informed coach is essential.

For Ericsson (2002), expert performance is best understood as, “consistently superior achievement in the core activities of a domain” (p. 5) and the road to expert performance is unambiguous. “Our clear assumption is that the amount of time an individual is engaged in deliberate practice activities is monotonically [causally] related to that individual’s acquired performance” (Ericsson, 1993, p. 368). The following characteristics of deliberate practice are the focus of this study:

1. Incremental and gradual improvements,
2. The use of training tasks and strategies that take the performer outside of the current capacities,
3. Focused attention to eliminate automaticity (p. 694), and
4. The use of coaches or mentors to help set goals, design training tasks to accomplish goals, and to provide meaningful feedback (Ericsson, 2006, p. 692-698).

These markers were used to determine the relevance of the model to those in the domain of service. Flescher and Worthen (2007) articulate a similar question when they ask “Are heroes and saints, for example, born heroic and saintly, or did they become so through repetition and effort?” (p. 49).

### **Methodology**

In order to test deliberate practice and to consider its relevance for educators, the lives of two people who have reached a level of expertise were studied. Determining superior performance in service was difficult to calculate by external criteria. However, the following criteria were used to identify and select the two expert performers:

- A. They have demonstrated service to others that clearly “transcend[s] a level of performance that we and other people in our immediate environment could attain” (Ericsson, 2002, 4),
- B. They have had their service to others acknowledged by some significant group or community,
- C. They have been active in some type of service for an extended period (generally close to ten years), and
- D. They are able, and willing to articulate their own growth in regards to their own service.

Besides the above criteria, the participants’ actions expressed profound concern for others and moved them to remarkable accomplishments. They are exemplary models of humanitarian “expertise” and provide examples of the incredible capacity we all have to serve others.

A framework of purposeful sampling was employed to identify fitting participants, who provided the names of a mentor and a person who had long term knowledge of their work. All interviewees remained anonymous and their organizations were disguised. Retrospective interviews with open ended questions were used.

Two additional people were interviewed to provide insight for each participant. One was a close friend or family member (F), and one was a coach or mentor (M). These perspectives added to the understanding of the participant’s incremental growth. Also, Cote, Ericsson & Law (2006) explain that the dependability of retrospective interviews can be deemed more reliable when it is supported by outside sources (pp. 9-12). These individuals offered critical insight into each participant’s growth.

### **Method of Analysis**

The basic elements of Ericsson’s (2006) framework of deliberate practice are: (p. 692-698):

1. Incremental and gradual improvements,
2. The use of training tasks and strategies that take the performer outside current capacities,
3. Focused attention to eliminate automaticity (p. 694), and
4. The use of coaches or mentors to help set goals, design training tasks to accomplish goals, and to provide meaningful feedback.

This four-point breakdown was used to interpret the data collected from the participants. Transcripts were marked to match the above categories when recognized.

### Findings

This section will provide detail and analyze the relationships between Ericsson's framework and the interviews in order to offer some meaningful conclusions and questions for educators.

Figure 1. Correlation of Data Collected from Participants to the Four Markers of Ericsson's Model

Marker	Participant 1	Participant 2
Incremental growth	<ul style="list-style-type: none"> <li>• Development of attitudes</li> <li>• Religious community</li> <li>• Moving to the inner city</li> <li>• Listening skills leading to action</li> <li>• People / administrative skills</li> </ul>	<ul style="list-style-type: none"> <li>• Desire to work with the homeless</li> <li>• Radical service to the homeless</li> <li>• International service</li> <li>• Sharp increase in practical skills</li> </ul>
Training Tasks	<ul style="list-style-type: none"> <li>• Jumping into projects</li> <li>• Intentional placement of self to encounter others</li> <li>• Serious self-reflection</li> </ul>	<ul style="list-style-type: none"> <li>• Living and working with mentor</li> <li>• Jumping in to difficult projects</li> <li>• Intense study</li> </ul>
Focused Attention	<ul style="list-style-type: none"> <li>• Intentional listening</li> <li>• Travel</li> <li>• Religious based practices</li> </ul>	<ul style="list-style-type: none"> <li>• Openness to the moment</li> <li>• Openness to encouragement</li> <li>• Openness to new ideas.</li> </ul>
Use of Mentors	<ul style="list-style-type: none"> <li>• Setting goals</li> <li>• Creating tasks</li> <li>• Providing feedback</li> </ul>	<ul style="list-style-type: none"> <li>• Advice and inspiration</li> <li>• Creative ideas</li> <li>• Feedback</li> </ul>

## Incremental Growth

The participants demonstrated characteristics related to Ericsson's idea of incremental growth. P1 demonstrated five different incremental improvements: evolving attitudes, joining a religious community, moving to the inner city, developing a keen sense of listening and acting, and developing skills related to working with people or within administration.

In the development of attitudes, two stories emerged that formed an essential element of P1's outlook. Around age five, P1 and her mother were riding on a bus when they encountered a minority gentleman who was drunk. "I remember staring at the man and my mom saying, 'Don't stare at him, that man is sick.' I'll always remember that. He wasn't disgusting, he was sick. He was a person and deserved respect. That's a very formative memory in term of how I've related with people." This lesson cultivated an attitude that helped P1 later choose to live among this minority group. She recounted that her attitude toward many of the difficult children she taught was shaped by her mother. "I related with them because I could always see their goodness. This goes back to my mom saying 'That man's sick.'" The encounter changed how she saw the one man and also had a lasting impact on her vision of people.

A second significant incremental change in P1's life was her entry into a religious community which provided her with opportunities, encouragement, and outlook. When asked what steps took her from a teen to the person she was at present, she took no time to say "becoming a sister." She explained, "You can take initiatives. I have not worked with a salary for 25 years. That is a huge gift of my community." This provided an important opportunity in taking part in, as well as initiating, creative projects. Additionally encouragement and support came from the community. "The focus of my community is working in the field of education especially with those who are disenfranchised or marginalized; it's how I weigh what I do." Speaking of the influence of her community, P1 commented, "There is an education that happens because many of my sisters have been involved in doing things to create a world where there is equality and where everyone has a place."

The next improvement is quite significant. In what P1 described as a "leap" she, with other members of her community moved to the inner city. This step seems to have brought about one of the most important parts of her continued transformation - listening. The idea came about when P1 and a very close friend went out for coffee. "We wanted to move back to the inner city. The intention (and this is really key) was not to do anything (and this is part of my whole life pattern) but to move there, live among people, observe, learn, and just know that some doors would be opened. To be located among disenfranchised people and to learn from them, that was the key." Listening to the desire of a close friend and her own heart motivated this pivotal move (with the intention to listen). The move may have been one of the most significant increments in P1's service to others because the desire to listen and learn initiated her major projects.

The last series of gradual changes were a result of the move, including several skills that were necessary because of newly initiated projects. The first were administrative skills. P1 described the move into administration as a "huge leap for me" while M1 explained that this took "her outside of her comfort zone."

There are several ways that P2 demonstrated incremental improvement. Based on the interviews, it seems as though P2 always had a big heart, but there were developments that took him far beyond the norm. These were the desire to work with the homeless, working with the homeless in a radical way, the movement into international service, and then a very pronounced maturity in the specific skills needed. In his early life, P2 remembers having "an overwhelming desire within me to help others."

After taking a job at a homeless shelter with the man who eventually became his mentor (M2), P2 began some of the very pronounced changes. Working at the shelter with M2 provided a constant training ground. Their work with the homeless was not typical; it was a radical dedication to those in need. M2 lived in the shelter and had an extraordinary devotion to, and relationships with those in the shelter. At one point, P2 lived in the shelter with M2. Describing their work relationship, M2 explained, “We have been sleeping on the floor for five years. He’d wake up at 3am and we work for a few hours. 24 hour shifts. No days off.” P2 later spoke of this work experience as ‘an apprenticeship.’ “Out of every shelter director in the world he is different. He is a true advocate.” M2 also offered the financial resources to begin some of the international work. While driving together one day, M2 mentioned that about ten thousand children die each day from starvation related causes. This simple statement seems to have had an enormous impact on P2.

I think that is when it really hit me. The next day I came in and resigned saying that I was going to go start something to help starving children. He said ‘Don’t quit. We will open an international charity.’ He wanted to give me the opportunity to do something. He gave me the position of the director of the international side and I started traveling.

Travel and working with M2 helped bring about significant changes and growth in P2’s skill sets. P2 described his first trip to a foreign country with a smile on his face, “A lot of naiveté.” Working at a homeless shelter provided the opportunity to buy food at a discount so he planned to solicit funds from churches and bring a lot of food to the starving people he heard about on the radio. “I didn’t even understand how to get food into a country but I just jumped into it.” One church responded with a seven hundred dollar check. “I have to do something with this money. I spoke to the government and they said they would charge me \$20,000 dollars in tax to bring food in. So, I saw that was a no go with my \$700. I didn’t do well in school but I could still figure that out.”

P2 explained that being a novice did not curtail P2’s efforts. “He didn’t know how to get them food, but he just went and did it. He sees a need and he responds no matter how big the challenge.” After that trip, things grew. One orphanage, then more, then different countries, more travel, and other projects. The capability to organize people and projects improved radically. The difference between the first trip and current success demonstrates the pronounced development in planning and skills related to international travel and organization.

It seems reasonable to assert that both P1 and P2 demonstrate characteristics of Ericsson’s concept of incremental improvement. Both went through several stages of growth in order to reach the level where they have been recognized by others as outstanding. They had similar experiences of jumping into projects even though they may not have been prepared to carry out the tasks necessary for success. Thus, it seems realistic to hold that the participants demonstrate Ericsson’s idea of incremental and gradual improvements taking a person to expert levels of performance.

### **The Use of Training Tasks**

Important to Ericsson’s framework are the specific training tasks that enable one to be pushed beyond one’s current capacities. These are exercises in which one is deliberately engaged to stretch one’s self from one level of ability to the next. For P1 there seemed to be three broad methods of intentional training. The first is a listen-then-jump behavior. One thing that stood out



in the interviews was the number of times that a key project or insight would come to P1 after she spent time in focused listening. This would lead her to jump into a new project or transform an existing project. The pattern of listening and jumping, or listening and then taking a bold step, has been a powerful strategy for P1 in her growth and transformation.

A second effective training task that allowed P1 to continually grow is that she intentionally placed herself in situations that would put her face to face with people in need. When asked what elements of her life have remained the same, P1 answered, "For me, it is absolutely critical to remain in touch with those struggling, because those are my teachers."

In respect to the training tasks chosen by P2, these appear to be three categories of activities that have been used to push him outside of his current capacities. These are living and working with M2, intense study, and jumping into activities or projects that he had not been able to do earlier. As mentioned, P2 described his relationship with M2 as an "apprenticeship." The relationship did end up functioning like an extended training session. P2 reflected, "In any type of job you would want to go to the best if you were going to be an apprentice under somebody. As an advocate, he's the best."

Reviewing the use of training tasks, there seems to be a reasonable relationship between both participants and Ericsson's concept as both P1 and P2 engaged in deliberate activities and strategies to bring themselves outside of their capacities.

### **Focused Attention to Eliminate Automaticity**

For Ericsson, expert performers use some type of activity to knock them out of ruts. Stages of arrested development are brought about periods of cruise control where a person does not continue to grow. This section will evaluate the strategies used to guard against automation.

P1 demonstrated three activities that were used to eliminate stagnation. They were intentional listening, travel, and religious based practices. Similarly, P2 demonstrated several methods of focusing himself. The different techniques are: openness to the moment, openness to encouragement, and openness to new ideas. The first category of openness to the moment was described by P2 as a form of engaged Buddhism. This implied focused and intentional meditation for the purpose of acting.

Each of the two participants used methods of keeping focused in order to circumvent the automaticity that can lead to arrested development. Doing so, they avoid the possibility of leveling off in their growth, demonstrating a correlation between their practices and Ericsson's framework.

### **Use of Mentors**

One of the final categories of Ericsson's theory is the use of mentors or coaches, which in practice means using someone else for feedback, training tasks, and setting goals.

P1 used mentors in three areas: setting goals, creating tasks to help accomplish goals, and providing feedback. P1's goals were designed by the people she set out to serve. Each of her projects came as a result of her listening to someone else. When asked where she got feedback, her answer was clear, "Being one with people. It comes from the people that I work with, the street kids. I am willing to learn and take direction from everyone, even if it's a person I bump into on the street."

The use of mentors was present in the work of P2, although weakest in respect to setting goals. Both the participant and his long term friend spoke about the lack of strategic planning and goal setting in P2's work and life. When asked about goal setting, F2 said that besides

planning the number of pills needed to assist specific groups with their medical treatment, there was not much planning. Although there was not a person who clearly assisted in setting goals, it did take place implicitly by using others as examples of what can be accomplished.

### Conclusions

There seemed to be a reasonable overlap between the four markers of Ericsson's model and the data. Participants demonstrated a progression towards their current capacities in a pattern that resembled incremental improvements, both employed specific methods that resembled Ericsson's training tasks that bring about growth in the domain of service and both participants used specific tools to shake them out of arrested development. Although pronounced feedback and goal setting mechanisms were not explicitly present in P2's mentorship, these elements were evident for P1.

Dealing with the question of the applicability of Ericsson's framework, there is enough correlation between the lives of the participants and the model to advance it as a meaningful interpretive structure. It is important to note that the research was limited to only two cases. Nevertheless the research advances Ericsson's model as a means for administrators and teachers to focus on the domain of service to others for two particular reasons. First, the research has led me to see that service to others does resemble other domains of expertise. Service work requires specific skills and a great commitment of time and hard work. In this respect, Ericsson himself seems to be open to this possibility. More specifically, the four categories of Ericsson's framework were evident in the lives of the participants. Both showed incremental growth in their openness to others and ability to work effectively. In both of their stories, a development in the ability to detach from self-interest and become more inclined (and successful) to serve the other (rather than the self) is evident. This developed over time and seems to have come about by the hard work that Ericsson defines as deliberate practice. The difficult research allowing P2 to stand confidently on national television and the gradual development of P1's capacity to work lovingly with both disenfranchised and the rich, demonstrates the slow and incremental growth Ericsson describes.

The third category is the exercise of focused attention to eliminate automaticity. Both demonstrated this in their travels. While one traveled internationally and one went to new areas of her town, both used this as a way to dramatically change their own lives which resulted in an increased capacity to serve. Many people travel internationally, but not all use this as a means to listen attentively. The participants used strategies to increase their awareness of those in need and lead to concrete action.

Finally, although differing in mentor guided goal setting, both participants utilized a form of mentoring. While P1 used mentoring to set goals, determine her shortcomings and gather feedback, P2 used his mentors to gather feedback, ask for advice and gain inspiration. Like other expert performers, both participants used this method of growth as a means of continued development. Thus, the lived experience of both participants does seem to demonstrate various elements of Ericsson's framework.

Secondly, Ericsson's model will be a helpful construct to view service to others because it takes into account the need to grow slowly in a domain. Rather than expecting students to find immediate motivation and success in their endeavors into service, this model reminds us that like music or other domains, the progress into mastery is slow, and difficult. A life of selfless service will take a long time to develop.



Based on the correlation between the participants and Ericsson's model, it seems fitting for educators to implement strategies that will deliberately engage students to seek improvement in their service of others. Establishing service as a key educational mission, using Ericsson's model to establish and improve programs, providing a social structure that encourages training in this domain, teaching students to listen attentively to the needs of the world to find their own particular calling, establishing encounters with those in need, and jumping into projects that take one into a new zone of performance are ideas that can help us to engage students in this important domain. It is through the hard work of creating structures that encourage respect and service for all that a difference will be made.

### References

- Brown, M.A., & Mahoney, M.J. (1984). Sport Psychology. *Annual Review of Psychology*, 35, 605-625.
- Chase, W.G., & Simon, H.A. (1973). The mind's eye in chess. In W.G. chase (Ed.). *Visual information processing* (pp. 215-281). San Diego, CA: Academic Press.
- Chi, M.T.H. (2006). Two approaches to the study of expert's characteristics. In Ericsson, K.A., Charness, N., Feltovich, P.J., & Hoffman, R.R. (Eds.). *The Cambridge handbook of expert performance* (pp. 21-30). New York: Cambridge Press.
- Colvin, G. (2008). *Talent is overrated: What really separates world-class performers from everybody else*. New York: Portfolio.
- Cote, J., Ericsson, K.A., & Law, M.P. (2005). Tracing the development of athletes using retrospective interview methods: A proposed interview and validation procedure for reported information. *Journal of Applied Sport Psychology*, 17(1), 1 – 19.
- Ericsson, K.A., Krampe, R.T., & Tesch-Romer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100(3), 363-406.
- Ericsson, K.A. (2002). Attaining excellence through deliberate practice: Insights from the study of expert performance. In C. Deforges, and R. Fox (Eds.). *Teaching and learning: The essential readings* (pp. 4-37). Oxford: Blackwell.
- Ericsson, K.A. (2006). The influence of experience and deliberate practice on the development of superior expert performance. In Ericsson, K.A., Charness, N., Feltovich, P.J., & Hoffman, R.R. (Eds.). *The Cambridge handbook of expert performance* (pp. 683-704). New York: Cambridge Press.
- Flescher, A., & Worthen, D. (2007). *The altruistic species: Scientific, philosophical, and religious perspectives on human benevolence*. Philadelphia, Templeton Foundation.
- Galton, F. (1979). *Hereditary genius: An inquiry into its laws and consequences*. London: Julian Freedman (Originally published in 1869).
- Goldberg, B., & Morrison, D.M. (2003). Co-nect: Purpose, accountability, and school leadership. In Murphy, J. & Datnow, A. (Eds.), *Leadership lessons from comprehensive school reforms* (pp. 57-82). Thousand Oaks, CA: Corwin.
- Leithwood, K. & Steinbach, R. (1995). *Expert problem solving: evidence from school and district leaders*. Albany: SUNY.

- Mieg, H. (2001). *The social psychology of expertise: case studies in research, professional domains, and expert roles*. Mahwah, NJ: Lawrence Erlbaum associates.
- Noblit, G., & Dempsey, V. (1996). *The social construction of virtue: The moral life of schools*. Albany: SUNY.
- Ouchi, W. (2003). *Making schools work: A revolutionary plan to get your children the education they need*. New York, NY: Simon & Schuster.
- Proctor, R., & Vu, K. (2006). Laboratory studies of training, skill acquisition, and retention of performance. In Ericsson, K.A., Charness, N., Feltovich, P.J., & Hoffman, R.R. (Eds.). *The Cambridge handbook of expert performance* (pp. 265-287). New York: Cambridge Press.
- Sosniak, L.A. (2006). Retrospective interviews in the study of expertise and expert performance. In Ericsson, K.A., Charness, N., Feltovich, P.J., & Hoffman, R.R. (Eds.). *The Cambridge handbook of expert performance* (pp. 287- 302). New York: Cambridge Press.
- Patton, M. (2002). *Qualitative research & evaluation methods* (3rd). Thousand Oaks, CA: Sage.
- Wolk, S. (2007). Why go to school? *Phi Delta Kappan*, May, 648-658.
- Zdenek and Schochor (2007). Developing moral literacy in the classroom. *Journal of Educational Administration*, 45(4), 514-531.

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