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## Using the Computer to Improve

**Quote of the Month:** *“I like to play chess against the computer more than I do against humans because the computer does not call me names, kick me under the table, or make fun of me when I make a mistake.”*

Well, you should hear what your computer says about you when you aren't around!

**COLUMNISTS**

### *Novice Nook*

**Dan Heisman**

One aspect of the computer this month's column will *not* address is “How to Use the World Wide Web” – the column's subject is large enough! There are entire books (!) written on web chess. Furthermore, it is assumed that if you have found your way to read *Novice Nook* at **ChessCafe**, you can at least navigate around well enough on the Internet to find some of what you need, including on-line servers, organizations, informational sites, web radio, etc. I will also ignore “non-improvement” chess uses of the computer, such as running tournaments, keeping track of club information, etc.

Even excluding the web, several uses of the computer for chess improvement remain, principally:

1. Playing against a software program
2. Keeping track of your games (and games of others) with a software database
3. Using a software program to analyze your games, and
4. Using a software program to do problems or otherwise augment your chess instruction.

#### **Playing Against a Software Program**

While any kind of chess playing can aid your improvement, playing against computer programs does not prepare you quite as well for playing humans as practicing against humans. This makes sense because computers and humans not only play with different styles, but also computers have a lower standard deviation of play. Software programs generally are very consistent while a human often has occasions – even in the same game – where he has flashes of brilliance combined with uncharacteristic oversight. Sure, one can set the programs to play more randomly – see below – but even though that may make them play slightly more like a human, it only approximates the “human experience”.

Also, one should not overlook the social aspects – playing chess against a computer is done in isolation. While not as social as games that encourage or

#### **A Parent's Guide to Chess**



require conversation, chess is supposed to be a “gentleman’s game”. Going to a club or a tournament is a chance to meet and interact with others; in fact, players who frequent a club on a regular basis often do so at least in part for its social aspects. These days with free and pay Internet chess servers readily available, finding a human opponent is easier than at any time in history.

Nevertheless, having a good chess program is not a bad idea. It can play when your Internet connection is down, is ready at a moment’s notice, and usually has bells and whistles beyond just playing capabilities. And, of course, it will never give you a hard time after you beat it and you say, “Good game!”

My suggestion is to purchase a “professional” program, like ChessMaster (CM), Fritz, Junior, Chess Genius, or Shredder, instead of a “fun” program like Battle Chess (BC) or equivalents. The program Crafty is free (downloadable via the Internet) and very strong but, unlike fully-featured commercial programs, is primarily a playing engine. While CM is not only much stronger than BC, it also has many settings that BC does not. The features of professional programs allow them to play at many more levels – the user has so much control that you can even make it play worse than BC (at the same speed) if you wish, so in that sense they are both “better” and “worse”.

Newer versions of professional programs usually cost about \$40-\$50, while older versions may be available for much less and are usually good bargains. For example, even though the latest version is CM9000, ever since CM4000 the CM engine has been good enough to play at about grandmaster level on a Pentium or equivalent computer. Therefore, when you buy newer versions, you are primarily paying for more “bells and whistles”, which is not to say that is bad, but all versions are so strong that most players cannot possibly tell the difference!

Learn how to adjust the program to play different strengths and styles. Warning! - reading the instructions may be necessary in some cases! Be aware that setting an inexpensive tabletop computer or program on a lower “level” sometimes means it just plays faster - but it is still playing the best it can, just not thinking as long. A good program like CM or Fritz, even in its very fastest mode, will beat a student 100% of the time. Therefore, consider various ways to make your program play less than its best.

Let’s use CM as an example. You can change the following settings to make it play at different levels. These controls differ for each version of the program; other programs of course have different controls, but similar ways to vary the level of play are possible:

1. Set its level to Newcomer or Novice, or whatever *level* is competitive;
2. Set it to a weak *personality*, like Novice or Woodpusher;
3. Change its *thinking depth* to one to four ply (half-moves) or only a few seconds;
4. Set the program so it cannot think on your move; and/or
5. Play with the value of its parameters. For example, you can make CM think

a Queen is worse less than a pawn if you want it to play ridiculously!

Most of the time you play, set the program to win about 75% of the games (about 200 USCF points above your level). This is close to optimum, as any stronger and the games will be less competitive and you will learn less; much weaker and the computer will not be taking advantage of your mistakes and won't push you hard enough to improve your normal strength. But occasionally set the program to play a little weaker than you, so that you learn to grind it down and beat it, to practice "technique" in winning positions.

These days many programs are so advanced that they can "detect" how good you are and play about the same level; this setting is usually called "friend" mode or something similar. Fritz8 has the following modes, as described in its *Help Menu*:

1) *Sparring*: "The program plays a reasonably strong game, but at the same time makes tactical errors. If the program finds a move that allows the opponent to gain a tactical advantage in a clever way, it will play that move... You can select the grade of difficulty of the tactics that will be offered."

2) *Friend*: "In this mode the program automatically adjusts its level of play to match that of the opponent. When you start, it asks you for your 'Handicap'. This is similar to golf and is measured in 100ths of a pawn. If you give a high value (e.g., 200 = two pawns) the program will reduce its strength considerably. Afterwards the program will adjust your handicap to reflect your real playing strength. The smaller your handicap, the stronger you are."

If you want to practice playing a particular opening, many programs will allow you to set it to play that opening. If your program does not have such a feature, it is still easy to do: set the computer to a "human vs. human" setting and play the opening setup you wish to practice. Then switch the setting to "computer vs. human" and start playing the color you want.

Almost all programs enable you to save your games in a database (see next section).

Finally, many programs have special modes to point out your attacked pieces, weak squares, etc. If you are a beginner and are practicing your "board vision", using these settings (by turning them off and on as needed) may help you learn to pinpoint these important aspects of a position.

### **Keeping Track of Your Games**

Most software programs contain automatic databases that will allow you to store and retrieve your games, or any others you choose to enter and save. For more sophisticated control you can purchase a program like the popular ChessBase, which is not inexpensive, but for the extra expense it includes a database of a million or more master level games and many other chess database features.

I can't do justice to ChessBase in a few paragraphs, any more than a database person could explain Oracle™ in that space. Suffice it to say that whenever I play a game, afterwards I enter the game into my personal database of games on ChessBase. If you play a game on-line or over-the-board, you can either electronically input the game (for example via Portable Game Notation – PGN) into a ChessBase database or you can enter the moves by hand, one by one. With either method, when you are finished you can save the game to your personalized database for later retrieval.

The database of my games is just one of many databases that I either created, received with my purchase of ChessBase, or bought separately. For example, the million master games that came with the program is treated just like the database of my games, except the million games is stored on a CD, while my games are kept on a hard drive. Besides creating your own databases, one can purchase – or find as freeware on the web - all kinds of databases for ChessBase, such as Capablanca's games, modern brilliancies, famous positions, electronic opening books, etc. The famous Pitt Chess Archives is one such place.

Chessbase also allows you to keep track of your openings, so another default database is a *repertoire* database for your opening sequences. It then has the capability to do all kinds of things, like generate Opening Reports, Database Statistics, Advanced Searches, Classifications, etc. Both of my electronic opening books were fully generated with ChessBase, although they were painstakingly analyzed “by hand” over many months with the best program I could use and direct.

One use of all the games is to search the database for those played with a particular opening, so that you can see how good players play the same positions that you reach. So if you want to see how international players handle your favorite opening, pop in one of the million+ game CD databases, create the position, do a search, and likely dozens or even hundreds of games will be found for you to play out and study to your heart's content. ChessBase even has a “movie” capability, with a speed setting to watch the moves of each game automatically at a set pace.

ChessBase coordinates its game analysis via the chess-playing program Fritz and other programs, as they are both distributed through the ChessBase Corporation, which is located in Germany.

### **Analyzing Your Games**

The primary use I have for chess-playing program is analysis of my games. Programs are primarily proficient in two areas: opening theory (via a database) and tactics. One could easily argue that top software programs are clearly superior to any human in tactics; to quote Garry Kasparov, “In some positions they play like God.” Therefore, when using these programs to analyze your games, keep in mind that their book knowledge of openings and their keen tactical sense are vastly superior to their suggestions for positional moves and quiet plans, where many human masters may be clearly superior.

There are basically two ways to analyze a game: interactive and non-interactive. I always use interactive mode, which means that I am directing the software how to analyze my game. However, programs like Fritz have an excellent “Full Analysis” mode, which can be used to *automatically analyze a game* to some depth. I call this “Overnight” mode, because it takes a few hours to do it well, so you can turn it on before you go to sleep, and in the morning you have an in-depth analysis of the game. This analysis can easily be saved, or printed out and studied. Great stuff. For *analyzing a single position deeply*, it has a different mode called “Deep Position Analysis.”

The method I use is even more rigorous than “Overnight” mode, but requires heavy interaction with Fritz, for possibly half an hour to several hours. The following is a brief overview of how I do this.

First, I open ChessBase to a new game via the default “game window” and enter the moves of my game, saving it my personal database. I then instruct ChessBase to activate Fritz, which creates its “analysis” window. Doing this is identical to opening Fritz (without ChessBase) and putting it in *infinite analysis* mode – the mode where it analyzes the game until you tell it to stop, but does not attempt to play either side. I default Fritz to show me the three best moves/lines in each position in its analysis window. The top line is the one Fritz considers best for the player currently to move; this is called the Principal Variation (PV). A positive score is better for White and a negative score for Black. Everything is measured in pawns, so a score of  $-0.34$  means that Fritz thinks that Black is better by about a third of a pawn.

Clicking on any move in the game window will start Fritz analyzing that move. Any time I wish to put its analysis into my game, I hit “CTL-SPACE” to paste the analysis from the Fritz analysis window into the game window. Again, keep in mind that this is extremely helpful for tactical sequences, but its suggestions otherwise may be taken with a grain of salt.

The key therefore is to *force* Fritz to analyze the lines worth investigating by directing it not only to the moves of your games, but also to some variations that you have already pasted into your game window. This additional information is helpful because the possibilities branch out, and key lines are often sub-variations of moves not played, but suggested by the analysis. Exactly which moves to choose for further analysis is more art than science, but with a little practice you will become more proficient and likely learn quite a bit.

A tip: If the move you played is not among the best three suggested by Fritz and, after you click on your move to have Fritz analyze the next move, its evaluation is considerably worse than the best of those three it suggested on the previous move, then your move is likely a blunder. In that case you should have Fritz show you why. One way to do this is to compare the variations that could have happened on the suggested best move versus what can - or did - happen on your actual move.

When you are finished your analysis, you should "replace" (save over) the

originally saved game. In practice, saving periodically is a good idea. You can imagine how I feel when I go through all of the above for an hour or more without saving, and then the computer crashes and I lose all the analysis!

In addition to the engine analyzing your game, you can also use the program to look up book openings; usually this requires interaction with the CD, since the opening database can be quite large. You can use this database to look up your opening and see where you went out of “book” and find out what was the suggested “book” line. If there is no “book” on the move chosen by you or your opponent, you can turn on the analysis engine as above. In Overnight mode it is a good idea to set Fritz to *not* analyze the book part of the opening, since during a game it would just get those moves out of its database anyway. Therefore you don’t need it to analyze that part of the game – you can just look it up in program’s database.

This brings up an important point. As regular Novice Nook readers know, I strongly emphasize learning general opening principles and not memorizing a lot of book lines. So even if your program does have the capability of showing you all the lines from your game, you are likely to be aided more by either going to a book that explains the principles behind these moves, or possibly even spending your time learning more about general opening principles that apply to any opening. For example, see my archived Novice Nook *Break Moves: Opening Lines to Increase Mobility*, which examines in depth a common maneuver to apply the principal of providing good mobility for one’s pieces.

Finally, what can you do with your stored computer analysis? As stated earlier, the main areas of study are tactical mistakes and openings. Computers play as well tactically as any human, so you want to identify any errors that should be caught by a player at your level. Players rated under 1400 want to especially take note of any mistakes that did – or would have – cost them a pawn or more (the exchange, a piece, a rook etc.), as well as missed opportunities to win that much material. These recurring tactical patterns can be identified, so that when they occur again in future games the chances of catching them are greatly increased. Of course stronger players may not have as many “one pawn” swings in their game, and so may want to decrease the margin of interest. For example, any mistake that cost them 0.3 or 0.4 pawns may be quite instructive. In the openings you can check to see if you are making the same mistake over and over – one of the worst things you can do is not learn from past mistakes. In this sense, your stored blitz games are as helpful as your slow ones.

### **Doing Problems/Augmenting Learning**

Most chess-playing programs now come with an assortment of “bells and whistles”, which are features such as problems, famous games, databases, board vision aids, etc. So in that sense these popular programs are very much more than just strong playing opponents and analysts.

For example, when playing Fritz8 you can augment your play with the following features: Hint, Suggestion, Threat, Explain all moves, Threatened squares, Spy,

Kibitzers, and Expected Move. Each serves to help the player understand one aspect of the position. For example, turning on Spy tells Fritz to show you the threat with a colored arrow.

In addition to the “primarily playing” programs, there are many specialized programs that focus on one aspect of chess learning, like problem solving, board vision, or opening study. There are so many products that I can only mention a sampling of the ones I know, much less the all the ones on the market. It is even difficult to mention all the different types, especially since chess “toolmakers” like to position their product as a different “type” than its competitor(s).

One company that specializes in training programs is Convekta, manufacturer of the Chess Assistant programs. **ChessCafe** readers are already familiar with the recommendation in the popular two-part article *400 Points in 400 Days* by Michael de la Maza to use the Convekta’s CT-ART 3.0. This tactical training program contains 1,217 problems by Maxim Bloch, varying from relatively easy to fiendishly difficult. Convekta has many other products, and those looking to improve their tactical play may likely find their Chess Tactics for Beginners program an even better place to start. There are many competitors to these products, both within the common chessplaying programs, but also stand-alone products like Chess Mentor 2.0, another recommendable trainer. For absolute beginners, the old CD program Maurice Ashley Teaches Chess, while aimed for the younger set, has many nice practice features.

Bookup is an excellent product to help one learn openings. While positioned as a database competitor to ChessBase, Bookup takes a different tack: while Chessbase is primarily a game database which also allows control at the “move” level, Bookup is really a move control program that also has game database capability. Another way to look at this is that Bookup is based on the concept, “a set of chess games or an opening book can be diagrammed to look like a tree, with the first moves coming out of the top of the tree and flowing down.”

Not only can you input all your favorite opening sequences (or games) into Bookup but, like ChessBase, you can also purchase “ready-made” products to study, like an electronic opening book or a set of tactical problems. Both Chessbase and Bookup have “training” modes, but this is one area where I think Bookup is clearly superior.

Finally, an emerging area is instructional DVDs. The first such DVDs were mostly converted videos, which simply meant that more data could be stored on them than on a VHS tape (multiple videotapes fit on one DVD), and the DVD could be accessed by computer (or DVD player) instead of using a VCR/TV. However, I am sure it will not be long before we have instructional DVDs which take full advantage of the combination of video and *computerized interaction*, and that may be quite an attractive combination, if you’ll pardon the play on words.

**Reader Questions** I immensely enjoy your articles at **ChessCafe.com**. Your article "An Improvement Plan" left some questions that I think a lot of readers are

wondering about. Perhaps a better title for the article should be "An Improvement Plan for your Little Brother Who's Never Played Chess Before". :)

Seriously, I think the question remains as to how to implement the plan if you've been playing a while. I've been a player since jr. high (about 10 years or so) and am around 1520 USCF. I imagine there are patterns/basics in the first 3 steps that I missed. How would you suggest that I or players already established implement your plan, get up to speed, and fill any missing holes?

**Answer** I started that article at beginner level on purpose, because I can't assume my readers are at any one level of development, and that was the only way to cover all their potential starting spots.

It is not possible to make a generic suggestion that applies to all players at a given level. After all, one can be a 1520 player who gets by mostly on tactics, as I did, or a 1520 player who is not that good tactically and does other things better, like positional evaluation. So the purpose of my article was to point out all the things one needs to know/do to keep progressing. For example, if you are a 1520 player who has terrible time management, that is probably going to hold you up forever until you learn to pace yourself every game. Or if you are a 1520 player who refuses to activate all his pieces in every game, that similarly can be a showstopper. If you have read some of my other **ChessCafe** articles like *The Road to Carnegie Hall* and the pre-Novice Nook *Time Management During a Chess Game*, you probably have a good handle on my suggested solutions to some of these problems.

For specifics, a good instructor would have to go over some of your games (including the time you took on each move), which is always more effective than just asking what you know. After all, many players "talk a good game" but if the instructor is going to really help you, that instructor should be more interested in what you practice than in what you preach.

**Question** I read your article "An Improvement Plan" with great interest. There is one point I would ask for you to elaborate on. 1) Are there certain openings and opening lines that you would recommend for the developing player? You state that we should "start by picking some lines that are either tactical or suit your style" 2)... but how do we know what are style is? 3)...how can we (at 1400-1500) know which openings would be better to try (i.e. simpler tactical theme) or which openings to avoid all together? Could you address some of this in a future article?

**Answer** 1) Yes, the weaker the players, the more gambits yield an inexpensive initiative since a pawn does not mean that much for them, and their opponents likely do not have good enough technique to win even if you lose your compensation for the gambitted pawn. Additionally, since learning tactics better is the single most important thing you can do to aid improvement (other than possibly taking your time on every move), those openings tend to lead to more tactical play. For example, I played the Blackmar-Diemar Gambit (and others) occasionally when I was a class player. However, it does not have to be a gambit; any complex



opening is probably fun and beneficial.

2) As stated above, gambits are tactical. If you feel that you are strong at tactics, but prefer long, maneuvering games, then you might select more slowly developing openings. In general, if you don't feel you have developed a specific style, stick with 1.e4 or gambits with White. If you know good general opening principles, a few main lines, and how to avoid the most serious traps, then likely any opening can be good if you are comfortable with it.

3) I am not sure this is worth an entire article, but in a short answer: Avoid very positional, slow openings like the Caro-Kann or Colle in favor of openings that help you learn tactics better. As stated in an earlier *Novice Nook*, players rated around 1400-1500 should try playing the French and King's Indian for a while because these openings' pawn structures are so universal that learning how to play them (break moves, etc.) aids your understanding of other openings, no matter which you choose, in the future. The Ruy Lopez is also a very good opening because it combines rich tactics and strategy throughout the game, and thus is both educational and fun. On the other hand, the traditional main lines of the Italian Game (1.e4 e5 2.Nf3 Nc6 3.Bc4) are more "trappy", but often if Black knows these lines one can end up in less rich middlegames. That is one reason the Italian Game is played less frequently than the Ruy Lopez at the GM level.

**Question** Dan, as a teacher I'm sure you have many students asking you the wrong questions. Wrong in the sense that the student really doesn't know what they don't know, and worse - doesn't know what is the most important to know for them, at that given moment in time.

What are some of the right questions that students should be asking? Or maybe, what are some of the questions you wish they would ask?

**Answer** Good meta-question(!) One overused question is, "Which book should I read next?" Most great chessplayers didn't get achieve the highest levels primarily from reading books. When was the last time you heard a grandmaster say, "That book really helped me become a GM!?" They mostly read books when they were beginners or, at most, intermediate players. After that they were bootstrapped up thru strong competition and study/analysis with strong players. But even weaker players who *can* get something out of good books, such as instructional game collections, should not view them as a be-all/end-all and instead look beyond books: getting consistently strong competition in slow games and interacting with stronger players is a necessary key to continuous improvement.

So better questions are "Where is the nearest club"? How do I find a strong tournament?" "I can't get out to many tournaments, so where can I still find strong competition for slow games?"

Another relatively bad question is "If I take lessons, how much would my rating go up in 3 months?" First, there is no way to independently predict the answer because of all the factors involved (your age, abilities, study time, availability to

play in serious tournaments, etc.) and, secondly, no one goes from a 1400 player to a 2000 in 3 months, so any measurable improvement in such a short time frame is good. And, of course, in such a short time it is theoretically possible for your *rating* to go down a little when your *playing strength* goes up, if you play relatively few events and just happen to have one or two below par.

Finally, "What opening should I play?" is a 'bad' question when asked by the weakest players. It really does not matter that much when you are not a strong player, so long as you pick an opening to practice, try to follow general opening principles, learn to avoid key traps, and learn not only the lines, but also the ideas of that opening. Much more important than the opening you choose is how many slow games you play a week and whether a strong player is helping you, so you don't make the same mistakes over and over. With regards to openings, few players heed my advice about looking up their openings after each fast or slow game to make sure they don't make the same mistake twice, but this is far more important than what opening you choose, at least until you are a relatively strong tournament player.

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Dan welcomes readers' questions; he is a full-time instructor on the ICC as Phillytutor.

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