Action Research Cycle for Educators

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 The Action Research Cycle is a process model that allows you to go through the cycle of an action research project. According to Salehi and Yaghtin (2015) action research is about taking action and synthesizing new theories or knowledge from that action. Salehi and Yaghtin (2015) go even further to state data that is collected is used to guide the future in Action Research. Kurt Lewin is considered the pioneer of Action Research and proposes that a “fundamental tenet of action research” is that good theory is very practical. (Snyder, 2009) Snyder goes on to say action research that “basic research and applied research are linked in a reciprocal relationship, mutually complementing and enriching one another.” (Snyder, 2009) In action research you are in essence capturing the tradition of experimentation in that both basic research is practiced (testing hypotheses from a causality) and also applied research (documenting the interventions effects) (Snyder, 2009) So, in Action Research you are doing both basic and applied research at the same time. Typically, Action Research is done in the social sciences and lends itself very easily to use in education.

**Action Research Cycle Steps**

**Possible Problems**

 The first step in the Action Research Cycle is to brainstorm the possible problems you face in your setting that you would like to set forth to change. This could be things like increasing NWEA/MAP scores, reducing the number of students given detention or increase the number of students completing and turning in homework. Once you have brainstormed possible problems you are going to want to settle on one problem to tackle in your research.

**Selecting Keywords**

 Using the problem selected begin to think of keywords and phrases that would be useful to help you in searching for information. Most search engines prefer the use of keywords over phrases today, but with using advanced searching techniques you can utilize phrases. Most search engines in today’s environment use what is called natural language which means you can search by just typing in a question. This is great to use in quick search; however, at times it is necessary to use more advanced search techniques that use Boolean operators of “and”, “or”, and “not”. The advanced search techniques require the use of keywords and phrases.

**Search for Information**

As a general rule of thumb you should start off by using the natural language and see what kind of information comes up. Once you get some basic information you can start to develop your key words. Keywords will allow you to do more advanced searches for your information. A keyword is a central concept or idea about a topic. Natural language is using keywords from what you type, but when doing research you need to be more selective.

The key is to first identify the major concepts of your topic, so that you can use those major concepts to develop your keywords. Online searching in a library database you will find is frustrating at times because the database can be quite picky when it comes to the words you put in. If your major concepts are about restorative justice and its effect on the school to prison pipeline, then you will want to look at the following:

|  |  |
| --- | --- |
| **Concept 1**: restorative justice | **Concept 2**: School-to-Prison Pipeline |
| **Keywords:**Restorative justiceRestorative practice | **Keywords:**School-to-prison pipelineJuvenile justice |

 Your more advanced searches use the Boolean operators of “and”, “or”, and “not”. These Boolean operators help you to narrow or broaden your search. If you want a search to give you things about school attendance and achievement you would search the following:

“school attendance” AND achievement

Putting school attendance in quotation marks keeps those words together and the search will look for those words in the exact order. The Boolean operator AND means the second part of the search must also be present. In this example that is achievement. Your search results are going to give you things that are about both school attendance and achievement. The Boolean operator narrows your search by requiring both things to be present.
 Using the same search terms if you use the Boolean operator OR you will not get information that contains either school attendance or achievement. This means both terms do not have to be present. This allows you to broaden your search by pulling articles on both school attendance and also articles on achievement.

 The third Boolean operator is NOT. This is also a narrowing tool because if we use the same search terms and search “school attendance” NOT achievement, then we will only get results that deal with school attendance and have nothing to do with achievement.

Table 1Boolean Operators

|  |
| --- |
| Boolean Operators |
| Operator | Example | Effect |
| AND | “school attendance” AND achievement | Narrows your search |
| OR | “school attendance” OR achievement | Broadens your search |
| NOT | “school attendance” NOT achievement | Narrows your search |

As you get the information you will need to begin the process of categorizing the literature into one of three categories.

* Research
* Theory
* Literature Review

Each one of the categories has their advantages and disadvantages. Each category of literature will be looked at from both their advantages and disadvantages.

 **Research.** In research literature there is actual research that is reported on. It includes the methodology, data, and a conclusion drawn from the data. This category of literature serves as a primary source of information. You are getting actual data from the research and it uses either qualitative, quantitative, or a mix of the two. The data is used to draw a conclusion and test the hypothesis of the research.

 **Theory.** Literature that promotes a theory relies on previous research projects to develop that theory. Theory is not a primary source of information because it is not actual data from an experiment like you would see in research. Theory literature relies on research to make a theoretical statement that is then used by researchers to prove or disprove the theory.

 **Literature review.** A literature review is just what it sounds like, a review of literature. There is no research or theory presented and is a compilation of research and theory literature out there on a particular topic. Literature reviews are useful in helping you to gain background information and to lead you to research or theories related to the topic. It is a secondary source of information because it is culled from other literature.

 Action Research is going to use all three of these categories of literature to gather information from; however, the majority of the literature used is going to be research and theory literature. This is going to be the backbone of your Action Research project literature review.

 Sometimes through the process of searching for your information it leads you to go back to brainstorming the possible problems. You might find there is little information on the problem in the body of research to help you with your project. You might find that the problem is too large and you need to narrow it down a little further, or that it is to narrow and need to see how to make it a little bigger.

**Gathering Information**

 Now that you have searched for your information the task before you is to begin gathering the information in the form of note taking. Everyone uses different ways to take notes and there is no one way that is better than another. An excellent electronic way of taking notes is using Microsoft OneNote or you could pay to use something like noodletools.com. What is important is that you are recording where you got your information from so you can cite it in your Action Research, and then to get either an exact quote, a paraphrase, or a summary. Many ask what the difference is between a paraphrase and a summary is and the difference is that a summary is summarizing the entire article, where a paraphrase is putting a few sentences into your own words. Your Action Research should not be all quotes but mainly paraphrases and summaries of the information you have gathered from your informational sources.

**Background Research/Root Cause Analysis/Possible Solutions**

At this point you need to conduct some background research on your project which tends to be more qualitative then quantitative. This will allow you then to start to look at root causes for the problem you are investigating. An example may be the background research shows many of your students are going home to homes where they are a latch key child. These are the same children that do not have their homework on a daily basis. The root cause you conclude is because they have no parental support when they get home so they don’t have the push/support to get their homework completed. A solution you think will help is to start an after school homework club.

 There are times where this part of the process leads you back to developing keywords and begin the search for information again because you don’t have research which could help you conclude a root cause or come up with possible solutions.

**Problem/Inquiry Statement**

Now that you have determined your root cause and possible solutions to address that root cause you need to state a problem/inquiry statement that is one sentence long. Some examples of problem statements are:

* Are students not completing or doing poorly on homework due to a lack of support?
* Does the use of restorative practices reduce the number of office referrals?

This statement is essential to Action Research because it is the basis for the methods and pilot will be developed to answer. This problem/inquiry is the point in the process where you make a statement based on background research and the root cause analysis of what you are intending to set out to prove or disprove in your pilot.

**Develop Action Research Plan (Methods)**

 Developing your plan of action or methods is essential to any Action Research. This is what are you going to do to solve the problem you have identified. How are you going to measure the success or failure of your pilot? Are you going to use quantitative data, qualitative data, or a mix of the two to measure success? This is where you will set you assessments that will allow you to capture your data. Action Research is not something that happens over long periods of time so you will primarily only focus on a tool you will need to be able to collect data at the beginning and at the end. Let’s say you want to do something on proving that D.E.A.R. (Drop Everything and Read) time built into your schedule will increase the students level on the Fontas and Pinnell Benchmark Literacy Continuum, You will need to collect the quantitative data at the beginning and the same data at the end. So at the beginning you will get their Fontas and Pinnell Reading Level and then you will assess them at the end to get their reading level at the end using the same assessment so the data collected is valid.

**Action Research Plan Implementation (Pilot)**

Thinking about students not doing homework. Let’s say that your plan of action is going to be to work with the students in an after school setting to help them get their homework completed, and then measure the impact this has on their academics. This plan of action you are piloting is basically an intervention and you need to establish the Action Research group (Goodnough, 2011). Is this group going to be the whole class, a select group of the class, or a random selection of the students in the class so that you can set up a group that doesn’t get the intervention to see whether the intervention you have designed works or not. Once you establish this you will need to decide on your timeline you will have to complete this pilot. This timeline needs to be realistic otherwise you will not be able to see if the pilot was a success or a failure (Goodnough, 2011). As part of this process of implementing the pilot make sure you have acquired the necessary resources so that the pilot can be implemented with fidelity (Goodnough, 2011).

**Collect Data**

As you are implementing your Action Research Plan you will need to collect data. This data can be data from before you start the pilot to compare to data after you conclude implementation, or it can be data that is ongoing with no finite beginning or ending. This data will be either quantitative, qualitative or a mix of the two. You will need to decide on a data collection tool that will best help you to analyze the data. If you are collecting quantitative data then a simple spreadsheet with the student name and then the data points you use in the pilot. A spreadsheet is great at helping you to analyze the data easily because of its powerful tools to crunch numbers. If you are collecting quantitative data then keeping an anecdotal set of records on each child using a separate sheet of paper, checklist, or index card with notes is going to help you to keep qualitative data organized. Of course if you are going to be doing a mix of the two then you are going to want to keep a spreadsheet, and notes or a set of notes with the quantitative data on those notes. Keeping quantitative data in a spreadsheet though is the preferable method.

According to McDonagh, Roche and Sullivan (2011) there are three levels you need to consider when you are collecting data. These three levels are: practice-based, relevance, and value base. The practice-based level is making sure you are collecting data without interfering with the education of those involved in the research (McDonagh, Roche and Sullivan, 2011). The relevance level refers to ensuring the methods used are relevant to the frameworks, conceptual and context, you are inquiring about (McDonagh, Roche and Sullivan, 2011). Finally, the value based level is how appropriate is the research process and more importantly the data collection method (McDonagh, Roche and Sullivan, 2011).

**Draw Conclusions from Data**

Taking your data an examining it is the most important step to draw conclusions from the data. You are creating new meaning from the data to help inform your practice as a teacher. This is one of the most critical things to do in Action Research is to look for new meaning and thereby drawing conclusions from the data. This analysis can result in many things from needing to go back and collect more data because you don’t have enough data to needing to go back and do additional background research and start the process over because you found the data did not answer your inquiry/problem statement. So you need to think of new possible solutions and create a new pilot to collect new data.

**Conclusion**

Once you have drawn your conclusions from the data it will lead you to new problems to explore and the Action Research Cycle starts over again. This cycle is one that allows for continual examination of problems and their root causes. Then allows you to explore possible solutions and to try those solutions out. As you saw in the process there are certain points in the cycle where you might need to go back to a previous step and either gather more information/data, rethink the problem, and develop new keywords to search from.

Action Research is a tool that is invaluable for a teacher as they strive to enhance their professional practice. The Action Research Cycle is one that will allow them to develop professionally through their own research in their classroom with their students. Ultimately the answers you find from Action Research will help you to grow as a teacher, but you can also use them to help other teachers as they strive to learn new strategies and methods to reach their students.

Once you have completed this process think about taking the time to get them published so that others can learn from your research or to make a presentation at a conference or to other schools about what you have learned. Education is a lifelong learning adventure and that learning adventure is not only in the process of readings current literature and learning from others, but also in conducting your own Action Research to solve your own inquiries into what might be happening with your students.

Figure 1 Action Research Cycle

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